SAN FRANCISCO WATER DEPARTMENT

REPORT FOR FISCAL YEAR

1973-1974

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GENERAL MANAGER'S REPORT

As a municipal utility owned and operated by the City and County of San Francisco, the Water Department is under a public mandate to deliver to all consumers a safe potable water in adequate quantity; to comply with all applicable federal and State regulations for water quality and public safety; to equitably charge and collect for water services; to provide for the needs of the present and future through continued planning and improvements; and to conduct all departmental operations efficiently at reasonable cost.

In carrying out this mandate the Water Department serves water to an estimated one and three quarter million people within the City and County of San Francisco, most of the urban area of San Mateo County, the cities of Palo Alto, Mountain View, Sunnyvale and Milpitas in northern Santa Clara County, and the Hayward, Sunol and Fremont areas in southern Alameda County.

In all its operations the Water Department is entirely self-supporting. All operations, maintenance, improvements, taxes, bond interest and redemptions including the original bond issue for purchase of the Spring Valley Water Company are paid for out of revenues.

CAPITAL PROGRAM

The San Francisco Water Department service area includes not only San Francisco, but also most of the peninsula cities in San Mateo County, and other south Bay communities in Santa Clara and Alameda Counties. In the last 20 years systemwide consumption has increased 99.4 percent. In the last 6 years the systemwide consumption increased 7.1 percent. Suburban consumption, which represents about 60 percent of the total system consumption today, has increased only moderately in the last 5 years as compared to the rapid rise experienced in the 1950's and 1960's.

To meet future water needs the Water Department plans to spend approximately 67 million dollars in the next 6 years for capital improvement and plant rehabilitation. 36 million dollars of this capital program will be financed from annual revenues, and 31 million dollars will be financed from the 39 million Water System Improvement Bonds approved in 1972.

RATE INCREASE

Projected revenue based on existing rates will not be sufficient to meet the cost for planned improvements and the increasing cost of operation due to the present high rate of inflation.

On June 25, 1974 the Public Utilities Commission approved an across the board rate increase of 17.4 percent system-wide, and sent it on to the Board of Supervisors.

Subsequent to the fiscal year covered by this report, the 17.4 percent increase was not approved by the Board and was referred back to the Public Utilities Commission.

CITY STRIKE

Miscellaneous employees strike began on March 7, 1974 and ended on March 18, 1974. Normal regulation of water to reservoirs and the pumping of water at various pump stations continued during the strike.

WATER CONSUMPTION AND PRODUCTION

The overall system consumption averaged 249.1 million gallons per day, an increase of 0.5% over last year. This year's water production was 87% of last year (the record year for local water production), and 181% of the long term average.

WATER SALES

Net paying sales for 1973-74 amounted to $25,411,466, representing an increase of $175,814 over the previous year.

COLLECTION OF UTILITY TAX, INDUSTRIAL WASTE SURCHARGE, AND SEWER SERVICE CHARGE

Under City Ordinances the Water Department is charged with the responsibility of collecting a Utility Tax, an Industrial Waste Surcharge, and a Sewer Service Charge.

Utility Tax collections are placed in the General Fund. Funds collected under the Industrial Waste Surcharge and Sewer Service Charge are each deposited in special funds under the jurisdiction of the Department of Public Works.

Taxes and charges collected during 1973-74 were:

Utility Tax	$ 562,877
Industrial Waste Surcharge	264,280
Sewer Service Charge	5,717,470

STATE AID AND FEDERAL AID

No state or federal agency aid was available during 1973-74.

Arthur H. Frye, Jr.
General Manager
and Chief Engineer

HIGHLIGHTS

Major Projects Under Construction During Year

1. The 4.6 million dollar Crystal Springs Balancing Reservoir and Pumping Station was 84 percent completed at year's end. Rain, labor disputes, and material shortages have delayed completion of this project, which was started in August, 1972. The completion of this facility will enable the Department to store Hetch Hetchy and filtered Alameda source water during periods of low usage, and to return water to the system during periods of peak usage. The 60 million gallon balancing reservoir under construction will be the first of two reservoirs planned for this facility.

2. The installation of a centralized data acquisition and control system for the City Distribution Division was 38 percent completed at year's end. Equipment acquisition problems have delayed this project. This project is the first phase of the Department's plan to ultimately centralize operations control for the entire City and suburban system.

3. The 4.8 million dollar enlargement of Sunol Valley Water Filtration Plant was started in March, 1974. Scheduled for completion in 1975, the enlarged plant will have a normal rated capacity of 80 MGD, and a maximum capacity of 160 MGD, double the present size.

4. The construction of seven cathodic protection stations and eight bond and monitoring stations on Bay Division Pipelines No. 3 and No. 4 in the south Bay area was completed in November, 1973. These installations will protect our buried 90 inch and 72 inch diameter transmission mains against the corrosive soils condition of the south Bay low lands.

5. The structural and walkway repairs to the Dumbarton Pipeline Bridge were nearing completion at year's end. This quarter million dollar project will strengthen the bridge against earthquakes. The bridge carries our 76 inch and 60 inch Bay Division Pipelines

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No. 1 and 2 across part of San Francisco Bay.

Strengthening of Calaveras Dam

After the San Fernando earthquake of 1971 and the near disastrous failure of the lower San Fernando Dam, W. A. Wahler and Associates were hired by the Water Department to study the stability of Calaveras Dam. The lower San Fernando Dam and the Calaveras Dam are hydraulic fill dams.

Our consultant recommended the construction of an additional 520,000 cubic yards of rock fill embankment to increase the dynamic stability of Calaveras Dam.

Plans and specifications for this work were nearing completion at year's end and will be advertised for bid in August, 1974; estimated cost 1.8 million dollars. To accommodate this work the water storage in the reservoir must be lowered to about 6 billion gallons; full capacity of the reservoir is 31.6 billion gallons.

Lowering of the reservoir began in April, and was completed by the first part of July. Storage reduction was accomplished by draft to Sunol Filter Plant, and needle valve discharge in to Alameda Creek.

Environmental Impact Reviews

During the year the Department processed four Negative Declaration projects through the City Planning Department, and reviewed various environmental documents submitted by other agencies.

Leases and Permits

Lease auctions

Normally, expiring agricultural leases are re-negotiated with the present tenants. This closed procedure has been criticized. To open opportunities to others, the Department will hold a public auction for leases for 10 parcels in the fall of 1974. These 10 parcels will involve about 10,000 acres of land. Public bidding should increase revenue to the Department.

Permit review

The Department has also initiated a program to review all older permits with the objective of updating permit fees to increase revenue from this source.

Reservoir Disaster Inundation Maps

As mandated by State law, maps showing the probable flooded areas in the event of catastrophic failure of all our dams were completed and sent to the State Office of Emergency Services during the year. The State approved the maps prepared for San Francisco and San Mateo County. Approval of the maps for our dams in Alameda County is still pending.

Energy Crisis

During the energy crisis of last fall and this spring all divisions of the Water Department were directed to initiate conservation measures. Conscientious efforts eliminated all unnecessary and nonessential usage of motor vehicles, light, and heat. As a result of conservation measures, sufficient gasoline was available for all essential services in spite of the limited allotment.

Bay Area Rapid Transit

The Department worked closely with all BART contractors and was able to perform service, main and hydrant work without causing any delay to BART construction.

Embarcadero Station

San Francisco Water Department facilities in Embarcadero Street Station area were adjusted to accommodate changes in sewer plans and changes in station configuration. Changes in water mains were effected by the contractor under direction of the Water Department.

Church Street and Castro Street Stations

Installation and adjustment of Water Department mains to accommodate construction of Church Street Stations, Castro Street Station and connecting tunnel, were performed by the contractor. Further work on San Francisco Water Department facilities will be completed during the street restoration work.

West Portal Station

Preliminary plans for the construction of the West Portal Stations and retracking of Muni tracks in the vicinity were reviewed insofar as the work required to adjust, protect and/or relocate water facilities.

Market Street Beautification

All work to beautify Market Street between Steuart and McCoppin Streets was under construction at the close of the fiscal year.

DELIVERY FOR CONSUMPTION

In addition to serving San Francisco, the Water Department supplies water to most of the urban areas of San Mateo County; to the cities of Palo Alto, Mountain View, Sunnyvale and Milpitas in northern Santa Clara County; and to the Hayward, Fremont and Sunol areas in southern Alameda County.

Approximately 70% of the water delivered to consumers is imported from Hetch Hetchy and the balance from Bay Area sources.

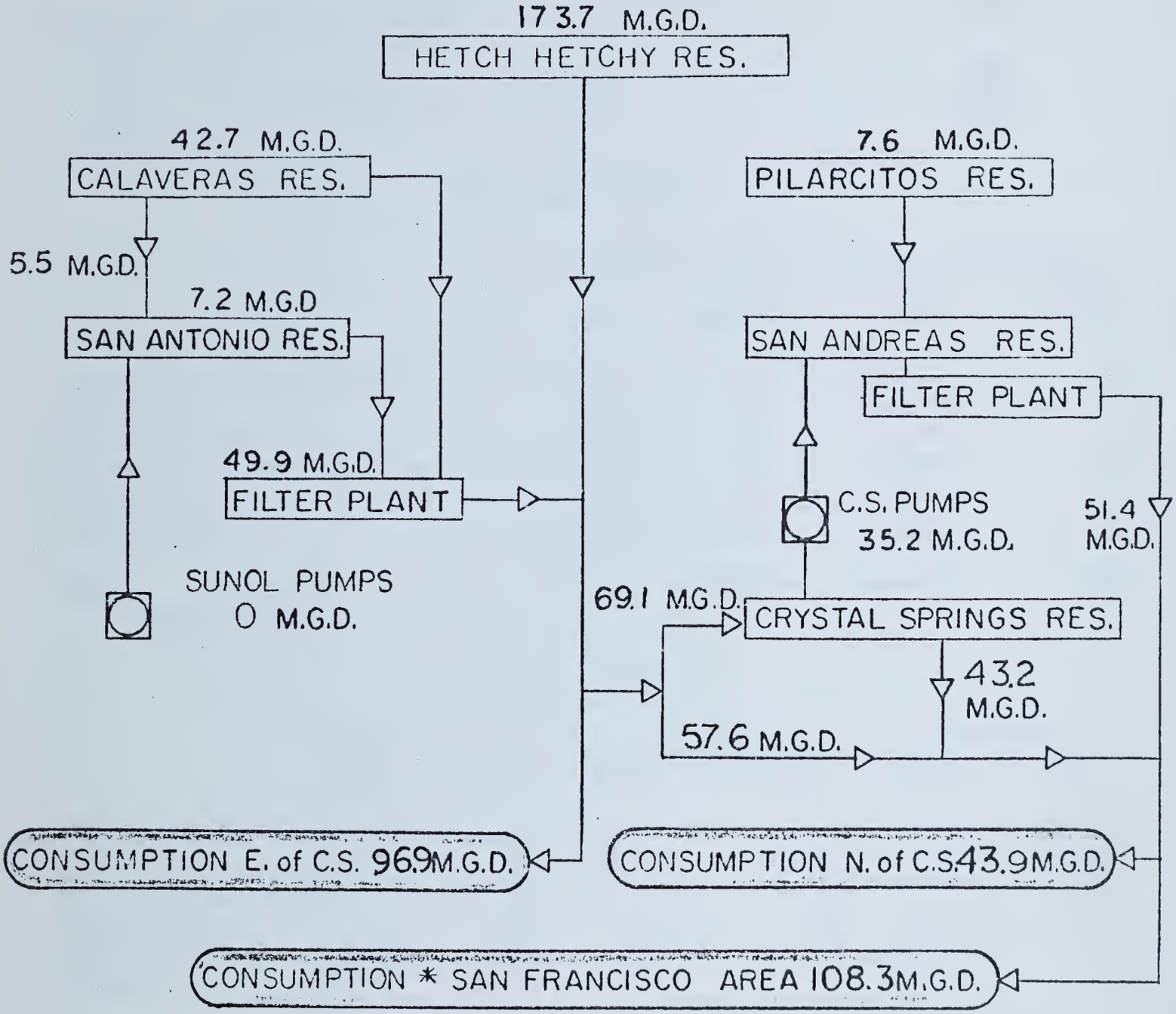
DELIVERIES FOR CONSUMPTION

1973 - 1974

	Million Gallons	MGD Average	%
From Hetch Hetchy	63,263.6	173,33	69.6
From Alameda and Peninsula Sources	27,650.9	75.75	30.4
TOTAL	90,914.5	249.08	100.0

TRANSMISSION

1973-74 AVERAGES



* Includes a portion of San Mateo County

TOTAL SUBURBAN	140.8	M.G.D.
SAN FRANCISCO	108.3	M.G.D.
SYSTEM TOTAL	249.1	M.G.D.

RAINFALL, WATER PRODUCTION AND WATER STORAGE

RAINFALL

Gaging Stations	1973-74	Comparison to Normal
Calaveras (Alameda County)	29.10 inches	132%
Crystal Springs Cottage (San Mateo County)	25.63 "	98%
Pilarcitos (San Mateo Co.)	60.29 "	136%
San Andreas " " "	42.68 "	117%

WATER PRODUCTION

	1972-73		1973-74	
	MG	MGD Average	MG	MGD Average
Calaveras (Alameda Co.)	30,937.9	84.8	23,517.5	64.4
San Antonio " "	3,556.8	9.7	2,644.1	7.2
Other Sources " "	2,231.5	6.1	3,218.8	8.8
Crystal Springs (San Mateo Co.)	3,429.0	9.4	5,056.1	13.9
Pilarcitos " " "	1,703.8	4.7	2,803.3	7.7
San Andreas " " "	2,207.7	6.0	2,245.7	6.2
TOTAL	44,066.7*	120.7*	39,485.5	108.2

*Record Year

WATER STORAGE

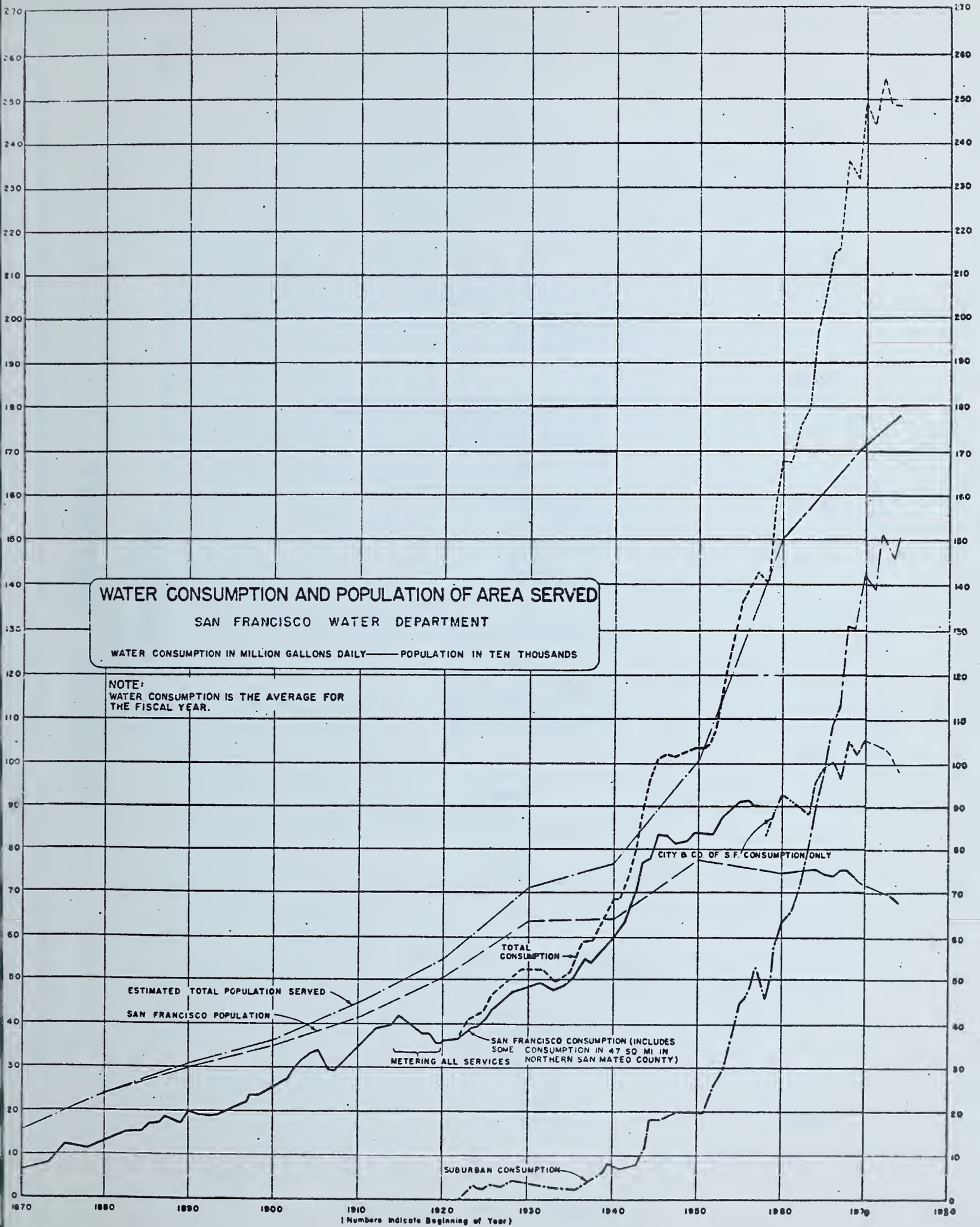
	7-01-73	7-01-74	Minimum		Maximum	
	MG	MG	Date	MG	Date	MG
Calaveras**	19,004	7,015	7-01-74	7,015	7-01-73	19,004
San Antonio	12,898	14,840	11-29-73	10,657	7-01-74	14,840
Crystal Springs	13,660	16,352	11-30-73	10,833	4-27-74	19,103
Pilarcitos	857	878	1-07-74	645	3-02-74	974
San Andreas	5,364	4,461	7-01-74	4,461	1-07-74	6,147
TOTAL	51,783	43,546				

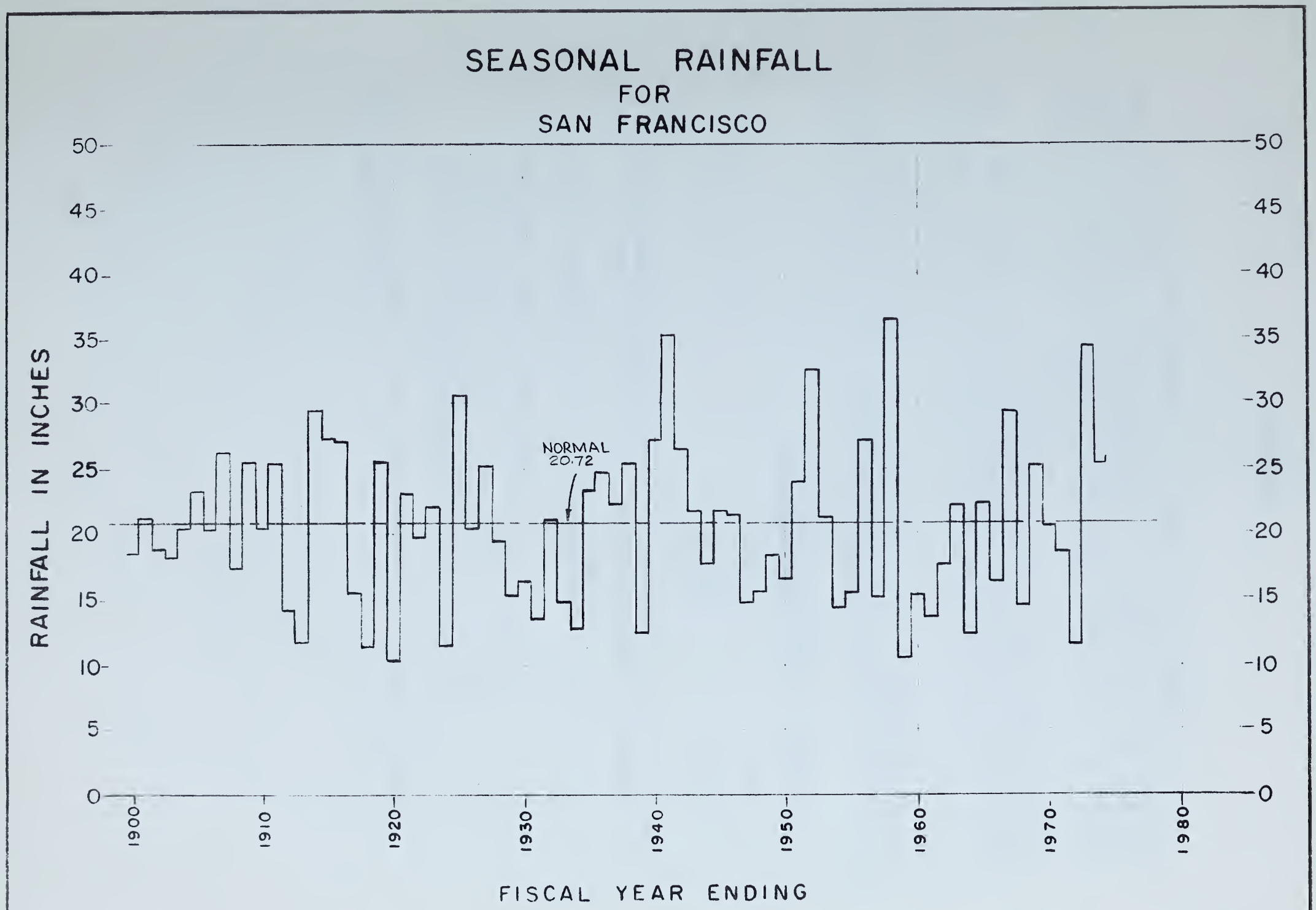
**17,904 million gallons released from the needle valve to lower the reservoir to level requested by State Division of Dams pending Calaveras Dam Safety Improvement project.

PER CAPITA USE IN SAN FRANCISCO

	1940	1950	1960	1970	1973-74
Average Daily Consumption in S.F. (MGD)	47.9	68.9	80.7	98.9	94.1
S. F. Population	634,536	775,357	740,316	715,674	679,200
Average Daily Use Per Capita (Gallons)	76	89	109	138	139
Classes of Consumers (Percentage of Total S.F. Consumption):					
Residential	39.4	37.7	39.1	36.5	36.1
Commercial* & Industrial	51.8	54.5	52.4	54.5	54.4
Municipal & Miscellaneous	8.8	7.8	8.5	9.0	9.5

*Commercial includes apartments.


WATER CONSUMPTION AND POPULATION OF AREA SERVED
SAN FRANCISCO WATER DEPARTMENT
WATER CONSUMPTION IN MILLION GALLONS DAILY——POPULATION IN TEN THOUSANDS
NOTE:
WATER CONSUMPTION IS THE AVERAGE FOR THE FISCAL YEAR.
CITY & CO OF S.F. CONSUMPTION ONLY
TOTAL CONSUMPTION
ESTIMATED TOTAL POPULATION SERVED
SAN FRANCISCO POPULATION
SAN FRANCISCO CONSUMPTION (INCLUDES SOME CONSUMPTION IN 47 SQ MI IN NORTHERN SAN MATEO COUNTY)
METERING ALL SERVICES
SUBURBAN CONSUMPTION
(Numbers Indicate Beginning of Year)


SEASONAL RAINFALL
FOR
SAN FRANCISCO
RAINFALL IN INCHES
50
45
40
35
30
25
20
15
10
5
0
NORMAL
20.72
1900
1910
1920
1930
1940
1950
1960
1970
1980
FISCAL YEAR ENDING

REVENUE

The Water Department is entirely self supporting. All operating costs, taxes, capital costs, bond interest and bond redemption are paid from revenues. In addition, the Department furnishes free water to other San Francisco city departments that are tax supported.

Water Sales were 0.62% more than for the previous year. Net sales in San Francisco produced 51.0% of the water sales revenue, with the balance of 49.0% coming from deliveries outside of the city.

It may be noted that the revenue percentages continue to be higher for San Francisco sales even though the suburban area now receives over 61% of all deliveries.

	Metered Quantities	Revenue
San Francisco	38.6%	51.0%
Suburban	61.4%	49.0%

Most suburban sales are to other agencies, who in turn resell the water through their own distribution systems.

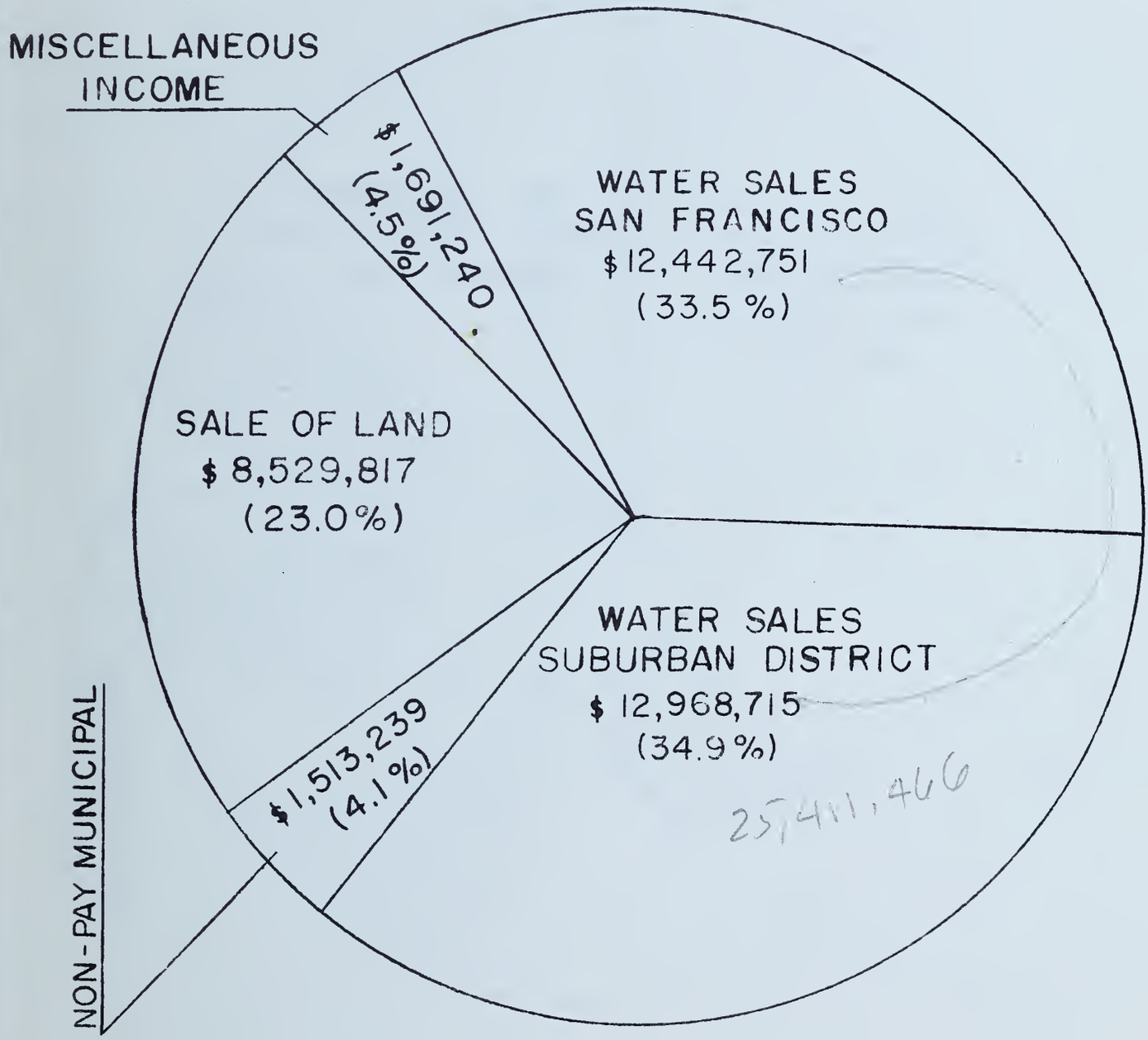
Other Income includes such items as:

Rentals, crop shares and royalties	$779,476
Walnut orchard crop	9,750
Interest on bank balances	252,004

The following tables give detail of revenue sources and expenditures:

SOURCE OF INCOME

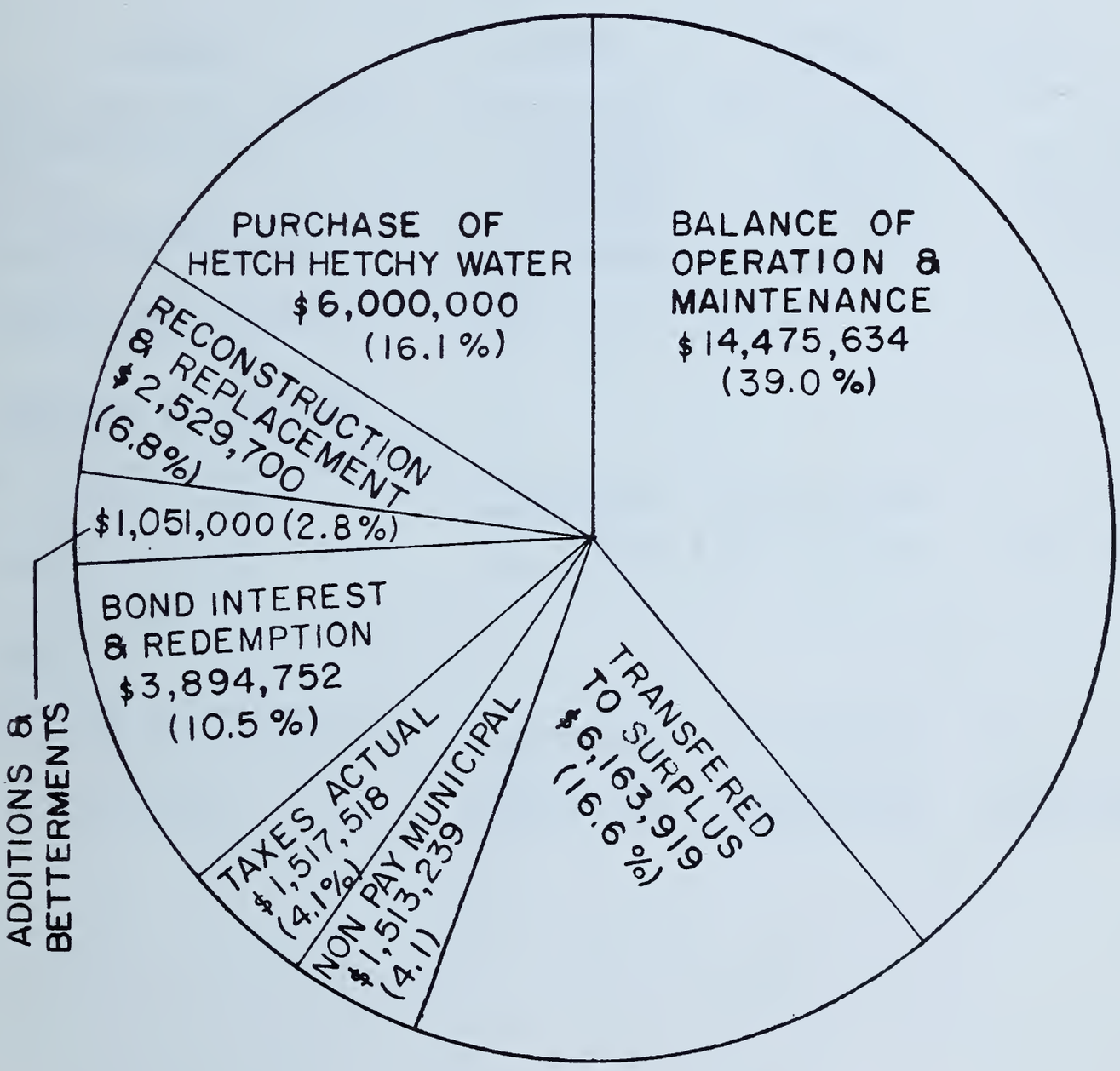
$37,145,762



25,411,466

DISPOSITION OF INCOME

$37,145,762


PURCHASE OF HETCH HETCHY WATER $6,000,000 (16.1%)
BALANCE OF OPERATION & MAINTENANCE $14,475,634 (39.0%)
RECONSTRUCTION & REPLACEMENT $2,529,700 (6.8%)
ADDITIONS & BETTERMENTS $1,051,000 (2.8%)
BOND INTEREST & REDEMPTION $3,894,752 (10.5%)
TRANSFERED TO SURPLUS $6,163,919 (16.6%)
TAXES ACTUAL $1,517,518 (4.1%)
NON PAY MUNICIPAL $1,513,239 (4.1)

SAN FRANCISCO WATER DEPARTMENT
COMPARISON OF ESTIMATED AND ACTUAL RECEIPTS
FISCAL YEAR 1973-74

RECEIPTS

REVENUE	BUDGET	ACTUAL	-UNDER, OVER
Revenue from Sale of Water	$26,000,000	$25,391,683	$-608,317
New Installations	110,000	106,158	- 3,842
Rents	600,000	887,291	287,291
Interest	110,000	224,407	114,407
Sale of Walnuts	26,000	9,750	- 16,250
Miscellaneous Revenue	24,000	34,352	10,352
TOTAL GROSS REVENUE	$26,870,000	$26,653,641	$-216,359
RECEIPTS BY TRANSFER			
From Unappropriated Revenue (Prior Year)	$ 3,140,850	$ 3,140,850	$ 0
TOTAL RECEIPTS	$30,010,850	$29,794,491	$-216,359
LESS			
Allocation of Revenue to Hetch Hetchy Project	$ 6,000,000	$ 6,000,000	$ 0
TOTAL BUDGET	$24,010,850	$23,794,491	$-216,359

SAN FRANCISCO WATER DEPARTMENT

COMPARISON OF BUDGETED AND ACTUAL EXPENDITURES (INCLUDING ENCUMBRANCES)

FISCAL YEAR 1973-74

DESCRIPTION	BUDGET	ACTUAL	-UNDER,OVER
Permanent Salaries	$ 2,931,156	$2,566,242	$-364,914
Allowance for Overtime	29,120	23,411	- 5,709
Allowance for Holidays	25,050	18,310	- 6,740
Extended Work Week	62,895	59,709	- 3,186
Compensation in Lieu of Sick Pay	81,448	81,448	0
Temporary Salaries	67,600	59,244	- 8,356
Wages	5,442,193	5,070,335	-371,858
Wages - Gardeners	203,531	181,952	- 21,579
	$ 8,842,993	$8,060,651	$-782,342
Contractual Services	$ 1,184,113	$1,183,501	$- 612
Materials & Supplies	1,036,722	1,088,063	51,341
Compensation Insurance	115,000	79,642	- 35,358
Judgments & Claims	46,371	44,838	- 1,533
Fidelity Insurance	466	466	0
Automobile Insurance	23,444	23,444	0
Fire Insurance	4,031	3,965	- 66
Other Insurance	17,683	17,107	- 576
Commissions for Collections	21,500	16,723	- 4,777
Assessments	14,129	14,514	385
Membership Dues	1,200	1,129	- 71
Fees, Licenses & Permits	5,000	3,849	- 1,151
Retirement Allowances	1,260,153	1,151,899	-108,254
Social Security	386,671	336,549	- 50,122
Health Service System	70,555	69,935	- 620
Taxes	1,516,874	1,517,518	644
Rents	1,810	231	- 1,579
Services of Other Departments	433,977	433,977	0
Electronic Data Processing	605,434	605,434	0
TOTAL OPERATING BUDGET	$15,588,126	$14,653,435	$-934,691
Equipment	$ 274,000	$ 265,864	$- 8,136
Additions & Betterments	1,051,500	1,051,500 P315	0
Reconstruction & Replacement	2,529,700	2,529,700 P315	0
Bond Interest & Redemption	4,567,524	3,894,752 P315	-672,772
TOTAL BUDGET	$24,010,850	$22,395,251	$-1,615,599

By 48 3,938,071

SYSTEMWIDE METERED DELIVERIES

Within the City of San Francisco the Department distributes, delivers and meters water directly to consumers. Outside of San Francisco, water is delivered and metered from transmission mains to water purveyors who distribute to customers in their service areas.

METERED DELIVERIES

1973 - 1974

	Million Cubic Feet Year	M.G.D.	%	-Decrease or Increase Over Prior Year
City*	4,591.6	94.1	38.6	-2.6%
Suburban**	7,311.1	149.8	61.4	3.5%
Systemwide	11,902.7	243.9	100.0	1.0%

* Includes 375.9 million cubic feet (2,811.7 million gallons) used by municipal non-pay accounts.

** Includes 134.2 million cubic feet (1,003.8 million gallons) used by suburban non-pay accounts.

TOTAL WATER SALES

FISCAL YEAR - 1973-74

Area, Utility or District	Metered Delivery[2] 100 Cu. Ft.	Average MGD	Charges $
SAN MATEO COUNTY			
Bayshore City (Dimond Public Utility Dist.)	187,601	0.38	38,172
Brisbane, City of	133,477	0.27	28,836
Guadalupe Valley Municipal Improvement District	103,566	0.21	24,943
Daly City, City of	1,488,847	3.05	281,410
Colma (Broadmoor, Calif. Water Service Company)	273,541	0.56	52,674
South San Francisco (Calif. Water Serv. Co.)	2,978,936	6.10	551,044
North Coast Co. Water Dist.	1,690,146	3.46	300,204
Coastside Co. Water Dist	344,987	0.71	70,563
San Bruno, City of	1,169,234	2.40	229,021
S. F. International Airport			
Sold	721,299	1.48	153,434
S. F. Use[1]	197,963	0.40	
Millbrae, City of	1,380,383	2.83	257,797
Burlingame, City of	2,331,138	4.78	426,964
Hillsborough, Town of	1,320,948	2.71	254,187
Crystal Springs Golf Club[1]	106,068	0.22	
San Mateo (Calif. Water Service Company)	5,698,269	11.68	986,226

TOTAL WATER SALES (CONTINUED)

FISCAL YEAR - 1973-74

Area, Utility or District	Metered Delivery[2] 100 Cu. Ft.	Average MGD	Charges $
SAN MATEO COUNTY (continued)			
Belmont County Water Dist.	1,873,564	3.84	348,298
San Carlos (Calif. Water Service Company)	1,978,117	4.05	365,400
Westborough County Water District	358,036	0.73	66,860
Redwood City, City of	4,243,426	8.70	752,244
(Calif. Water Serv. Co.)	397,841	0.81	76,251
Cordilleras Mutual Water Association	2,709	0.01	969
Palomar Pk. Co. Water Dist.	18,093	0.04	4,823
Woodside (Calif. Water Serv. Co.)	698,111	1.43	129,432
Bear Gulch District (Calif. Water Serv. Co.)	999,021	2.05	187,419
Menlo Park, City of	1,957,578	4.01	360,738
Menlo Park (Calif. Water Service Company)	1,823,280	3.74	343,000
East Palo Alto Water Dist. (Formerly Ravenswood Water District)	1,001,899	2.05	181,224
Skyline County Water Dist.	37,445	0.08	9,541
Estero Municipal Improvement Dist.	1,224,608	2.51	220,451
Los Trancos Co. Water Dist.	22,616	0.05	5,847
City of San Francisco			
County Jail[1]	298,393	0.61	
Social Services[1]	3,761	0.01	
Hassler Hospital[1]	8,566	0.02	

TOTAL WATER SALES (CONTINUED)

FISCAL YEAR - 1973-74

Area, Utility or District	Metered 100 Cu. Ft.	Delivery[2] Average MGD	Charges $
SAN MATEO COUNTY (continued)			
Other Water delivered in San Mateo County	524,972	1.07	120,829
Total for San Mateo County	37,598,439	77.05	6,828,801
SANTA CLARA COUNTY			
Palo Alto, City of	8,162,423	16.73	1,437,749
Purissima Hills County Water District	526,148	1.08	99,528
Mountain View, City of	4,502,482	9.23	785,823
Moffett Field	850,150	1.74	149,047
Sunnyvale, City of	5,282,421	10.82	934,644
Agnew State Hospital	9,406	0.02	4,125
Milpitas, City of	2,408,629	4.94	467,156
San Jose, City of	109,704	0.22	22,976
Other Water delivered in Santa Clara County	881,347	1.81	165,307
Total for Santa Clara Co.	22,732,710	46.59	4,066,355
ALAMEDA COUNTY			
Alameda County Water Dist.	3,704,055	7.59	695,959
Newark (various consumers)	169,455	0.35	36,601
Hayward Muni. Water System	7,195,459	14.74	1,251,991

TOTAL WATER SALES

FISCAL YEAR - 1973-74

Area, Utility or District	Metered Delivery (2) 100 Cu. Ft.	Average MGD	Charges $
ALAMEDA COUNTY (continued)			
Sunol			
Domestic Supply	32,433	0.07	13,053
Water Dept. Lands (1) From Transmission Line	787,052	1.61	
Water Dept. Lands (1) Est'd Not From Transmission Lines	138,012	0.28	
Vallecitos	301,425	0.62	56,131
Castlewood Country Club	137,803	0.28	24,148
Pleasanton Well Field Agricultural Use (1) Estimated	291,590	0.60	
Other Water Delivered in Alameda County	22,822	0.05	10,655
Total for Alameda County	12,780,106	26.19	2,088,538
Total for San Mateo, Santa Clara & Alameda Counties	73,111,255	149.83	12,983,694
SAN FRANCISCO COUNTY			
San Francisco	42,156,190	86.39	12,477,665
San Francisco Non-Pay Municipal	3,759,476	7.70	
Total for San Francisco County	45,915,666	94.09	
Total for San Francisco Water Department System	119,026,921	243.92	25,461,359 (3)

(1) Non-paying Municipal accounts.
(2) Metered delivery does not include system loss which for 1973-74 amounted to 2.1% of total water sales.
(3) Represents total billing for water sold without adjustment for allowances, etc.

MAINTENANCE AND OPERATION

In the Alameda Division leaks were repaired in Alameda Siphons No. 2 and No. 3 during the year.

In the Peninsula Division a portion of the Crystal Springs Pipeline No. 1 located on San Mateo Avenue was abandoned and quitclaimed to the City of San Bruno for their use as a storm drain.

The Pulgas Tunnel was blocked off at the Pulgas shaft from the first of the year until December to permit construction of the Crystal Springs Balancing Reservoir pump station. All water passing the Pulgas meters was therefore directed to the By-Pass Tunnel and thence to the Sunset Supply Line and the Crystal Springs Pipeline No. 2.

Normal maintenance work such as grading and oiling of the Department's existing privately owned roads, weed eradication, trimming of trees, fire guarding, changing location or size or replacement of service connections, meter testing, and minor repairs were carried on during the year.

DISTRIBUTION MAINS AND SERVICES IN SAN FRANCISCO

Distribution Mains

There was a total of 1,177 miles of distribution mains in San Francisco as of June 30, 1974.

During the year 9.0 miles of new mains were laid in the City. During this same period 7.2 miles of old mains were abandoned or removed.

Services and Meters

During the year the following number of services and meters were in active service:

Services:	159,536	Total
Meters:	159,717	Revenue
	2,779	Non Revenue
	162,496	Total

During 1973-74 the total number of new service installations and maintenance operations were as follows:

New Services	786
Old Services Replaced	3,716
Services Repaired	2,388
Meters Installed	5,906
Meters Repaired (Shop)	4,213
Meters Repaired (Field)	5,785

Leak Detection

Since 1963 the Water Department has retained the services of Pitometer Associates to conduct waste water surveys of the City Distribution System under a series of professional services contracts.

In 1973-74 Pitometer Associates completed surveys on 44.6 miles of main and located 30 underground leaks, representing a daily leakage and waste of 1,000,000 gallons. At the minimum rate charged for water, this amount of water represents a potential annual saving of approximately $80,375.

In addition to leakage, the surveys furnished information on flow characteristics and on location of defective valves.

Other Data

Other water works information may be found in the Miscellaneous Statistics section of this report.

WATER QUALITY AND TREATMENT

Customary procedures for the treatment of the San Francisco water supply were employed during the year and proper precautions were taken to insure its safety and purity. Disinfection of all supplies was continuous and water served to consumers complied with the bacteriological standards for drinking water established by the United States Public Health Service.

Dissolved chemical content of the supply sources varies from a soft mountain to that of a moderately soft local water. The mountain water constitutes the principal source of supply and requires treatment for the control of its corrosive properties. It is combined in varying proportions with the water from local sources, is soft to moderately soft when served to customers, and its low mineral content makes it an excellent water for all uses.

Filtration

The Water Department operates two water treatment plants. The Sunol Valley Plant has been operational since 1966. The San Andreas Plant was completed on May 31, 1972 and placed in operation on August 8, 1972.

All water drawn from Alameda County sources (Calaveras and San Antonio Reservoirs, and Sunol Filter Galleries) was treated at the Sunol Valley Plant before entering the system.

In the Peninsula all the water drawn from San Andreas Reservoir is now treated at the new San Andreas Plant. It is to be noted that most of the water in San Andreas is transferred from the larger Crystal Springs Reservoir.

Chlorination

Disinfection of all supplies was continuous throughout the year with no water exposed to contamination from the point of final chlorination to the consumers' services.

During the year the Department operated 18 chlorination stations in addition to the ones at the two water treatment plants.

LABORATORY

The purity and quality of the water delivered to consumers are under constant checking by the Purification Division.

All laboratory work in the fields of biology, microbiology and chemistry was performed in the Purification Division's laboratory in Millbrae. The laboratory has been certified by the State Department of Public Health as an "Approved Water Laboratory for Complete Chemical and Complete Bacteriological Analyses".

Numerous special investigations were conducted, and technical assistances were rendered to industrial concerns. Lectures, demonstrations of laboratory and water treatment technique and inspection tours of water treatment facilities were conducted as requested.

During the year the laboratory performed 29,535 chemical, 29,457 microbiological, and 17,332 physical analyses, for a total of 76,324 individual tests.

Disinfection of New and Rehabilitated Mains

All new and relined distribution mains in the City were disinfected before they were placed into service. A total of 48 such operations were performed during the year involving 39,615 feet of water main.

MAIN FLUSHING

During the year there were no scheduled area flushings due to vacancy in the position of flushing Foreman caused by numerous retirements in the rank of Foreman. Main flushing was restricted to isolated locations where water quality was unacceptable. There were 226 individual spot flushing operations carried out during the year to eliminate or prevent "dirty water" or other complaints.

WATER QUALITY AND OPERATIONS DATA

Water quality and operations statistics for the year are presented hereafter in the following order:

Water Treatment Plants
Chlorination Stations
Fluoridation Stations
Lime Treatment Station
Alum Treatment Station
Copper Sulfate Treatment of Storage Reservoirs
(Tables for Bacteriological and Mineral Analyses may be found in the Miscellaneous Statistics section.)

1973-74 WATER TREATMENT PLANT OPERATIONS

	Sunol Valley Plant	San Andreas Plant
Volume Water Treated:		
Total for Year (M.G.)	18,018	16,549
Average Daily (M.G.D.)	49.4	45.3
Maximum Daily (M.G.D.)	85.5	61.2
Turbidity:		
Average (Formazin Turbidity Units)	7.7	2.1
Maximum Monthly Average (FTU)	25.0	6.0
Minimum Monthly Average (FTU)	0.8	0.6
Chemicals Used 1973-74:		
Chlorine (lbs.)	265,331	129,474
Alum (lbs.)	2,860,279	687,411
Polyelectrolite (lbs.)	70,251	64,144
Caustic Soda (lbs.)	-	592,878
Lime (lbs.)	987,976	-
Fluoride (lbs.)	-	456,287

1973-1974

OPERATION OF CHLORINE STATIONS

LOCATION		TOTAL OPERATING TIME (MONTHS)	CHLORINE USED (lbs.)	
Division	Station		Station Total	Division Total
Coast Range	Rock River	10.7	297	
H.H.W.S.	Tesla Portal	10.7	1,115,185	1,115,482
Alameda	Calaveras	10.4	216,588	
	Sunol Aqueduct	12.0	31,728	
	Sunol Valley W.T.P.	12.0	265,331	513,647
Peninsula	Sunset Supply Line	9.9	117,755	
	Crystal Springs No. 2	8.2	96,359	
	San Andreas No. 2	10.1	66,450	
	San Andreas No. 3	12.0	118,648	
	San Andreas W.T.P.	11.6	126,474	526,686
City Distribution	College Hill	11.9	4,742	
	Lombard	12.0	729	
	McLaren Pump	11.0	635	
	Merced Manor	11.9	2,328	
	Stanford Heights	12.0	1,047	
	Summit	12.0	320	
	Sunset	12.0	22,413	
	Sutro	11.6	1,262	
	University Mound North	12.0	976	
	University Mound South	12.0	15,524	49,976
	Total Chlorine Gas Used			2,205,791
	Plus Total Chlorine as NaOCL			1,677
	Total Chlorine Used			2,207,468

1973-1974

OPERATION OF FLUORIDE STATIONS

STATION	MONTHS OPERATED	FLOW (m.g.)	FLUORIDE USED		TOTAL FLUORIDE ADDED (mg/l)	TOTAL FLUORIDE (mg/l)
			Na_2SiF_6 (lbs.)	H_2SiF_6 (lbs.)		
SSL	5.0	10,804	60,740		0.41	0.50
CS #2	3.4	8,471	48,483		0.41	0.51
CSBP	7.9	29,257		1014,496	0.85	0.85
SA #2	1.7		13,617		1.0	1.0
SAFP	11.5	18,203		456,287	0.62	0.92
TOTALS		66,735	122,840	1,470,783	0.57	0.69

1973-1974

OPERATION OF LIME TREATMENT STATION

STATION	MONTHS OPERATED	LIME USED (lbs.)	FLOW (m.g.)	LIME ADDED	
				lbs./m.g.	mg/l
ROCK RIVER	10.7	2,477,790	63,061	39.3	4.71

1973-1974

OPERATIONS OF ALUM TREATMENT STATIONS

STATION	GALLONS	* ALUM USED		REMARKS
		$AL_2(SO_4)_3$	AL_2O_3	
SAWYER CAMP PLANTS	89,669	1,592,021	474,423	Operated intermittently as needed during October, November, December, January, February and March.
STONE CIRCLE	44,842	796,173	237,260	
TOTALS	134,511	2,388,195	711,683	

* As pounds, dry

1973-1974

COPPER SULFATE USAGE

RESERVOIR	DATE	POUNDS $CuSO_4 .5H_2O$	WATER STORAGE (M.G.)	ORGANISM(S) NECESSITATING TREATMENT
Calaveras	10-18-73	21,700	15,347	Melosira, Fragillaria, Aphanazomenon
	3-29-74	19,700	12,200	Anabaena
San Antonio	9-13-73	25,700	11,986	Staurastrum
	10-26-73	25,700	11,583	Anabaena
Lower C.S.	2-8-74	13,100	10,060	Asterionella
San Andreas	8-15-73	7,800	5,284	Dynobryon
	2-12-74	8,500	5,695	Dynobryon, Asterionella
	3-27-74	9,200	5,558	Fragillaria
Pilarcitos	10-3-73	1,800	819	Ceratium
TOTALS:		133,200	78,532	

PRIEST	11-11-73	800	Mongeotea, Zygnema, Spirogira
Moccasin	11-11-73	1,400	
TOTAL		2,200	

CONSTRUCTION CONTRACTS

The Water Department's Capital Improvement Program for 1973-74 included 43 construction projects with a combined value of over 14 million dollars.

No. of Contracts	Description	Total Value of Contracts
5	Additions and Betterments to supply, transmission, treatment and miscellaneous facilities	$5,103,090
11	Reconstruction and Replacement of Water Facilities	1,114,791
1	Bond Fund Projects	4,756,970
26	City Distribution Division - Replacements and Additions	3,593,763
*43	TOTALS	$14,568,614

* (29 new contracts and 14 contracts carried over from 1972-73.)

23 projects were completed during 1973-74, 9 contracts were still under construction, and 9 projects were not yet started on June 30, 1974.

The total amount of money spent on contracts during 1973-74 was $5,123,750 (amount includes engineering and inspection cost items in cast iron main contracts).

TABLE NO. 26

CONTRACT DATA - 1973-74

CONTRACT NO.	TITLE OF CONTRACT	DIVISION	NUMBER OF BIDDERS	CONTRACTOR	DATE OF AWARD	DATE OF COMPLETION	% COMPLETE 6/30/74	BID PRICE	TOTAL COST TO 6/30/74
1502-R	Laying of 16-inch D.I. Main in Valencia St. between 14th and Market Streets	C.D.D.	4	M.G.M. Construction Co.	3/13/73	7/11/73	100	$81,963.00	$78,955.30
1510	Constr. of Sunol Valley Water Filtration Plant Enlargement	Alameda	5	Dan Caputo Co.	1/08/74		11	4,756,970.00	484,586.46
1522	Building for Experimental Water Treatment Microstrainer near Sunol	Alameda	2	Red Feather Constr. Co.	7/24/73	4/17/74	100	15,391.85	15,391.85
1528	Valve Motorization - Lake Merced Pump Sta. and Crystal Springs Outlet Towers	General	4	Monterey Mechanical Co.	8/14/73		-0-	50,500.00	-0-
1544	Laying of 8-inch D.I. Main in Gardenside Dr.	C.D.D.	5	Kennelly & Regan Constr.	4/24/73	9/14/73	100	28,198.00	26,731.30
1550	Crystal Springs Balancing Reservoir & Pumping Station	Peninsula	12	Stolte, Inc.	7/25/72		84	4,614,810.00	3,525,687.50
1569	Laying of 12-inch D.I. & 20-inch Steel Mains in 4th, Folsom, Main & Mission Sts.	C.D.D.	4	Underground Construction Company, Inc.	10/24/72	8/24/73	100	468,239.00	474,435.60
1571	Rehabilitate Bay Bridge Pump Station	C.D.D.	7	R.W. Johnston & Son	11/28/72	10/19/73	100	16,968.00	18,168.00
1574	Laying of 6-inch D.I. Main in Clipper Street Clipper Terrace, High and 25th Streets	C.D.D.	4	Dalton Construction Co.	2/13/73	8/27/73	100	32,000.00	31,471.30
1586	Furnish & Install Cathodic Protection for Bay Division Pipelines Nos. 3 & 4 between Milpitas and Sunnyvale	Peninsula	4	L.R. Yegge Company	1/23/73	11/16/73	100	109,895.00	106,210.74
1589-R	Construction of Caretaker's Cottage at Irvington Portal in Fremont	Alameda	7	Madsen Construction Co.	2/13/73	8/31/73	100	42,128.04	43,183.32
1594	Laying of 16-inch D.I. Main in 34th Ave., Judah to Irving, and in Irving, 34th to 45th Ave.	C.D.D.	8	McGuire and Hester	9/11/73	4/08/74	100	175,674.00	178,014.18
1595	Structural and Walkway Repairs, Dumbarton Pipeline Bridge, San Mateo County	Peninsula	5	L.R. Yegge Co.	9/25/73		81	255,468.00	187,522.20
1596	Laying 16" D.I. Main in 3rd Street between Folsom and Market Street	C.D.D.	4	Dalton Construction Co.	5/08/73	8/24/73	100	164,150.00	158,743.90
1597	Laying of 4-inch, 6-inch, 8-inch & 12-inch D.I. Mains in Folsom, 14th, Trainor & Tehama Streets	C.D.D.	6	Lowrie Paving Co., Inc.	1/23/73	7/17/73	100	132,076.00	127,489.99
1600	Construction of Centralized Data Acquisition & Control System for the City Distribution Division	C.D.D.	7	L.F.E. Control System Industries	2/27/73		37	322,905.00	111,470.40
1601	Furnish and Install Utilities for Care-Taker's Cottage at Irvington Portal in Alameda County	Alameda	5	Alart Plumbing, Inc.	3/13/73	7/26/73	100	12,943.75	12,853.38
1602	Laying of 12-inch D.I. Main in Folsom, Main Harrison and other Streets	C.D.D.	5	Underground Constr. Co.	6/25/74		-0-	124,573.00	-0-
1607	Laying of 16-inch D.I. Main in Jackson, Taylor and Other Streets	C.D.D.	4	W.L. Fairey	3/13/73	10/22/73	100	168,534.00	162,298.70

TABLE NO. 26

CONTRACT DATA - 1973 - 1974

CONTRACT NO.	TITLE OF CONTRACT	DIVISION	NUMBER OF BIDDERS	CONTRACTOR	DATE OF AWARD	DATE OF COMPLETION	% COMPLETE 6/30/74	BID PRICE	TOTAL COST TO 6/30/74
1608	Laying of 20-inch Steel Main in Howard St. detour between Third and Fourth Sts.	C.D.D.		D. P. W. Contract		5/13/74	100		$32,073.00
1612	Laying of 6-inch D.I. Main in Webster St. between Post and Bush Streets	C.D.D.	4	Dalton Construction	8/14/73	12/05/73	100	$36,945.50	34,980.35
1614	Paving Roads at San Andreas Filtration Plant	Peninsula	1	Lowrie Paving Co, Inc.	6/26/73	8/24/73	100	15,577.50	15,314.76
1619	Laying of 16-inch D.I. Main and 18-inch O.D. Steel Mains in Turk St. btw. Buchanan & Divisadero St & in Filbert St at Van Ness	C.D.D.	6	M. G. M. Constr. Co.	10/09/73		79	205,487.00	101,021.62
1620	Repaving of Street and/or Sidewalk Openings for the Fiscal Year Ending June 30, 1974	C.D.D.	3	Pacific Pavements Co.,Ltd.	3/12/74		99	382,195.00	361,769.75
1621	Laying of 8-inch D.I. Main in Montcalm St. between Peralta Ave & Macedonia Street	C.D.D.	3	W.L. Fairey	1/08/74		80	23,853.00	9,220.27
1622-R	Laying of 8-inch D.I. Main in Oakdale Ave and Griffith Street	C.D.D.	3	S.F. Water Department	9/11/73	10/25/73	100	19,996.00	20,077.53
1623	Laying of 8-inch and 12-inch D.I. Mains in Fairfax Ave, Lane and Keith Streets	C.D.D.	3	Dalton Construction	8/28/73	11/20/73	100	78,333.00	71,835.00
1624	Laying of 8-inch D.I. Main in Leavenworth St.	C.D.D.		D. P. W. Contract					
1625	Excavation & Repaving for Water Services Trenches	C.D.D.	2	Lowrie Paving Co, Inc.	8/28/73	1/25/74	100	80,897.50	88,970.15
1626	Excavation & Repaving for Water Service Trenches	C.D.D.	4	A.C. Wright Co.	12/11/73	5/17/74	100	55,458.00	40,662.07
1628	Excavation & Repaving for Water Service Trenches	C.D.D.	4	Bepco, Inc.	2/26/74		99	98,000.00	84,722.44
1629	Excavation & Repaving for Water Service Trenches	C.D.D.	5	Lowrie Paving Co., Inc.	4/23/74		45	125,380.00	48,043.12
1630	Excavation & Repaving for Water Service Trenches	C.D.D.	3	Bepco, Inc.	5/28/74		-0-	134,000.00	-0-
1631	Laying of 8-inch D.I. Main in Broadway, Battery, Filbert & Sansome Streets	C.D.D.	5	W.L. Fairey	10/23/73	2/11/74	100	73,856.00	74,523.60
1632	Laying of 6-inch and 8-inch D.I. Mains in Gough, Sacramento & California Streets	C.D.D.	6	Kennelly & Regan Constr.	1/08/74	5/24/74	100	99,627.00	91,065.75
1633	Laying of 8-inch D.I. Main in California St. between 3rd and 6th Avenues	C.D.D.	7	S.F. Water Department	12/11/73	1/31/74	100	33,272.00	28,502.68
1636	Cement Mortar Line 16", 20", 22", and 24" Pipe in Battery,Sansome,Scott and Other Sts.	C.D.D.	2	Raymond International, Centriline Dept.	11/27/73		60	324,140.00	122,170.50
1537	Reconditioning Baden Merced Pipeline between San Pedro Road, Daly City, & Brotherhood Way	Peninsula	2	Ameron, Inc.	4/23/74		-0-	132,939.00	-0-
1638	Laying of 6-inch & 8-inch D.I. Main in Jackson, Kearney and Filbert Streets	C.D.D.	4	McGuire and Hester	4/23/74		-0-	125,488.00	-0-
1639	Laying of 6-inch D.I. Main in Yale, Amherst and Princeton Sts btw. Felton & Silliman Sts.	C.D.D.	3	M. G. M. Construction Co.	3/12/74	5/13/74	100	35,309.00	34,409.10
1641	Laying of 6-inch & 8-inch D.I. Mains in Filbert, Mason, Union and Powell Streets	C.D.D.	4	Lowrie Paving Co., Inc.	4/09/74		31	172,305.00	31,546.80

TABLE NO. 26

CONTRACT DATA - 1973 - 1974

CONTRACT NO.	TITLE OF CONTRACT	DIVISION	NUMBER OF BIDDERS	CONTRACTOR	DATE OF AWARD	DATE OF COMPLETION	% COMPLETE 6/30/74	BID PRICE	TOTAL COST TO 6/30/74
1645	Protective relays for San Andreas Water Filtration Plant - Electrical System	Peninsula	4	Brayer Electric Co.	5/28/74		-0-	$4,980.00	-0-
1652	Annual Repaving Contract - Fiscal Year Ending June 30, 1975	C.D.D.	2	Pacific Pavement Co.,Ltd.	5/28/74		-0-	686,920.00	-0-
1653	Laying of 12-inch D.I. Main in Newhall St. between Evans and Galvez Avenues	C.D.D.	4	W. L. Fairey	6/25/74		-0-	38,484.00	-0-
1656	Landscaping, Aqua Way, San Francisco	C.D.D.	2	Hand & Hawkins	6/25/74		-0-	11,785.00	-0-

PROFESSIONAL SERVICES CONTRACTS

During the year 10 Professional Services Agreements were made with private consulting firms. This type of agreement is used for the performance of work that requires specialized experience and personnel.

Professional services contracts and agreements for the fiscal year were as follows:

1. Waste Water Survey - The Pitometer Associates.

2. Develop and Prepare Plans, Specifications and Construction Cost Estimate for Remedial construction at Calaveras Dam in Alameda County - W. A. Wahler & Associates.

3. Additional Studies of Water Rates - Brown & Caldwell, Consulting Engineers.

4. Recreational and Environmental Planning Services, Peninsula Watershed Lands - EDAW, Inc.

5. Plans, Specifications and Consulting Services During Construction of Addition to Sunol Valley Water Filtration Plant - Brown & Caldwell - Montgomery.

6. Plans, Specifications and Consulting Services During Construction of Balancing Reservoir for Crystal Springs By-pass Tunnel and Appurtenant Pumping Station - Brown & Caldwell - Montgomery.

7. Borings, Soil Tests and Stability Analysis for Calaveras Dam in Alameda County - W.A. Wahler & Associates.

8. Design of a Centralized Data Acquisition and Control System - Brown & Caldwell.

9. Design of a Cathodic Protection System - Corrosion Engineering and Research Co., Consulting Engineers.

10. Borings, Soil Tests and Stability Analysis for Balboa Reservoir - Earth Sciences Associates, Inc.

LAND, LEASES, PERMITS AND TAXES

Land Transactions:

At the beginning of the fiscal year the Department owned a total of 62,951.29 acres of land. Sales during the year resulted in a net decrease in holdings of 476.26 acres, leaving a new total of 62,475.03 acres.

	PURCHASES (Acres)	SALES (Acres)
Purchases:	0	
Sales:		
To State of California for Junipero Serra Freeway		440.53
To State of California for South Bay Aqueduct		25.41
To Alameda County Flood Control Dist.		10.32
	0	476.26
Net Decrease in Acres		476.26

Leases:

During the year 8 leases were negotiated and 1 was cancelled.

5 Agricultural leases
3 Non-agricultural leases
8 Total leases

Permits:

Eighty-three revocable permits were issued and 32 revocable were cancelled.

19 Homeowners
2 Organizations
15 Governmental Agencies
38 Commercial
9 Utility Companies
83 Total permits

Land and Agriculture:

1973-74	
Miscellaneous Receipts from Rentals.	$ 887,291
Walnuts.	9,750
Total Receipts	$ 897,041

Taxes

The Department paid total property taxes in other counties as follows:

Alameda County.	$ 692,159
Santa Clara County.	173,847
San Mateo County.	651,512
Total Taxes paid in other counties	$1,517,518

General

The Engineering Division also reviewed legislative bills, prepared legal description of real property, and furnished information in regard to current status or use of land, real property interests or structures.

Surveys and monumenting of the Department's real property continued throughout the year. Projects requiring survey work were the construction of Crystal Springs Balancing Reservoir and Pumping Station in the Pulgas Temple area; expansion of the Sunol Valley Water Filtration Plant; the cross sectioning of Calaveras Dam and borrow area; and the Municipal Railway maintenance facility in San Francisco.

The engineering aspects of damage resulting from leaks and breaks in the water system were investigated in cooperation with the Claims Section.

WATER RIGHTS - ALAMEDA CREEK

In accordance with the 1916 and subsequent 1936 and other Alameda County Water District Agreements, the Department released water for replenishment of the underground supply of the Niles Cone. The total release entering Niles Cone during 1973-74 was 1,418.714 million gallons.

The quantities of water due the District and the quantities released by the Water Department to the District for replenishing the underground Waters for each of the past ten years are as follows:

YEAR	DUE THE DISTRICT	RELEASED TO DISTRICT
1964-65	201,185,000 Gallons	1,696,091,000 Gallons
1965-66	196,544,000 "	1,122,762,000 "
1966-67	42,363,000 "	1,885,672,000 "
1967-68	265,512,000 "	1,541,678,000 "
1968-69	120,938,000 "	1,762,598,000 "
1969-70	78,683,000 "	1,529,317,000 "
1970-71	468,548,000 "	1,674,187,000 "
1971-72	None "	1,262,560,000 "
1972-73	189,533,000 "	683,516,000 "
1973-74	790,327,000 "	1,418,714,000 "

The net accumulated advance release to the Alameda County Water District since 1935 in accordance with the terms of the 1936 Agreement amount to the 45,538 million gallons reported as of June 30, 1974.

The Sheriff of Alameda County continued to use the U. S. Navy's "Camp Shoemaker" as "Santa Rita Rehabilitation Center" during the fiscal year. Water supplied to this institution, as well as to the former Naval Housing Project, Komandorski Village and Camp Parks, was taken by the U. S. Government from the 4.105 acre tract within the Pleasanton Township County Water District. The withdrawal of ground waters for such purposes varied from a high of 2.16 million gallons to a low of 0.12 million gallons per day on days when they pumped. The pumps operated throughout the year two to seven days per week, averaging 672,762 gallons per day for the year.

During the fiscal year, the tenants on the City's Well Field property near Pleasanton pumped about 326 million gallons of water from City owned wells for irrigation of this leased property.

During this fiscal year, the lessees on Department lands bordering Laguna and Alameda Creeks at Sunol used for irrigation about 103 million gallons of water pumped directly from these creeks.

ACCOUNTING AND AUDITING

The accounts of the San Francisco Water Department are maintained strictly in accordance with the requirements of the California State Public Utilities Commission and Section 64 of the City Charter. The accounts of the Department have been so coordinated with the Controller's system that no encumbrance or expenditure against budget estimates can be incurred without prior certification from the Controller that funds are available. As provided in Ordinance 9.0621, an annual audit of the Department is made as of June 30 by a firm of certified public accountants.

1973-74 Operating Expenses show a net increase of $1,442,593.37 as shown by the following tabulation:

Operating Revenue Deductions

	Increase	Decrease
Source of Supply	$ 112,305.61	
Pumping Expenses	81,768.55	
Purification Expenses	118,090.33	
Transmission and Distributions Expenses		$ 227,409.28
Customers Accounts Expenses	25,815.75	
Administrative and General	538,181.64	
*Municipal Taxes, Comparison		10,297.90
Miscellaneous Expenses		39,216.49
Taxes Actual		44,666.84
Provision for Depreciation	388,022.00	
Standby Charge & Purchase of Water	500,000.00	
		321,590.51
Net Increase		1,442,593.37
TOTALS	$1,764,183.88	$ 1,764,183.88

*Water delivered to Municipal Departments offset by taxes.

An analysis of Revenue and Operating Expenses is shown in the following Exhibits "A" through "E".

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "A"
JUNE 30, 1974

ASSETS AND OTHER DEBITS

UTILITY PLANT

Water Plant in Service	218,419,927.81	
Less Reserve for Depreciation	65,417,920.00	$153,002,007.81
Construction Work in Progress:		
Water Department	2,100,558.57	
1961 Bond Fund	231,234.79	
1972 Bond Fund	778,042.83	3,109,836.19
TOTAL AND ACCRUED ASSETS		$156,111,844.00

CURRENT AND ACCRUED ASSETS

Cash	$15,189,084.84	
Accounts Receivable (See Schedule 2) $6,612,108.98		
Less Reserve for Uncollectible-Acct. 58,000.00	6,554,108.98	
Notes Receivable	18,328.15	
Interfund Accts. Receivable	94,966.48	
Materials and Supplies	708,791.86	
TOTAL CURRENT & ACCRUED ASSETS		$22,565,780.66

DEFERRED DEBITS

Work in Progress	$ 326,193.37	
Suspense Debits	5,171,669.25	
Encumbrances (Contra)	11,323,486.06	
Budget Allocations to other Departments		
TOTAL DEFERRED DEBITS		$16,821,348.68

TOTAL ASSETS AND OTHER DEBITS	$195,498,973.34

LIABILITIES AND OTHER CREDITS

LONG TERM DEBT

Bonds	$36,480,484.00

CURRENT AND ACCRUED LIABILITIES

Customer's Deposits	$75,693.02	
Accounts Payable	2,649,414.21	
Interfund Accounts-Payable	6,279,406.20	
Matured Long-Term Debt-1928 Bind	3,000.00	
Matured Interest-1928 Bond		
Interest Accrued-1928 Bond		
TOTAL CURRENT AND ACCRUED LIABILITIES		$9,007,513.43

DEFERRED CREDITS

Suspense Credit	$60,704.46	
Advance for Construction	123,441.62	
Orders for Work-Cash Advances	183,040.66	
Orders for Work-Accounts Receivable		
Orders for Work-Other Departments		
Orders for Work-Stock Manufacture		
Rental Deposits and Payments made in advance	5,250.00	
Utility Tax Billed		
Sewer Service Charges Billed		
TOTAL DEFERRED CREDITS		$ 372,436.74

RESERVES

Injuries and Damage Reserves	$75,000.00	
Reserve for Refunds:		
Funded 59,584.02		
Unfunded 6,176.11	65,760.13	
Reserve for Contractors Damage Claims	29,365.69	
Reserve for Encumbrances (Contra)	11,323,486.06	
TOTAL RESERVES		$11,493,611.88

CONTRIBUTIONS IN AID OF CONSTRUCTION

NET CAPITAL INVESTMENT

$138,144,927.29

TOTAL LIABILITIES AND OTHER CREDITS	$195,498,973.34

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "B"
JUNE 30, 1974

	1972 M.W.S. BOND FUND	1961 M.W.S. BOND FUND	SAN FRANCISCO WATER DEPARTMENT	TOTAL
NET CAPITAL INVESTMENT - JUNE 30, 1974		$(2,449,667.37)	$130,491,029.38	$128,041,362.01
ADD:				
Adjustment of Prior Years Surplus			(308,652.26)	$(308,652.26)
Bond Sold (Series A)	$5,000,000.00			5,000,000.00
Net Income for 12 Months ending June 30,1974			10,412,217.54	10,412,217.54
Completed Contracts Capitalized, Equipment Transfer		6,480,764.54	6,480,764.54	12,961,529.08
Interest Capitalized by Bond Fund	38,456.26			38,456.26
Prepaid Interest on Series "A"			162.50	162.50
Transfer to Completed Contracts				
	$5,038,456.26	$4,031,097.17	$147,075,521.70	$156,145,075.13
DEDUCT:				
Book Value of Plant Appraisal-June 30, 1968		45,840.06	38,456.26	84,296.32
Bond Sold (Series "A")			5,000,000.00	5,000,000.00
Completed Contracts Capitalized Equipment Transfer		6,434,924.48		6,434,924.48
Concellation of Capitizing Contract Shown Avoce Allocated to General Fund			6,480,764.54	6,480,764.54
Prepaid Interest on Series "A"	162.50			162.50
	$5,038,293.76	($2,449,667.37)	$135,556,300.90	$138,144,927.29

COMPOSITION OF NET CAPITAL INVESTMENT

INITIAL CAPITAL INVESTMENT - MARCH 03, 1930				
Amortization of Allocations (Spring Valley)		$4,152,652.24		
Valuation of Municipal Water Works.		100,000.00		
		$4,252,652.24		
LESS:				
Additional allowance for Depreciation - March 1, 1920 to March 03, 1930		2,327,916.67	$1,924,735.57	
ADDITIONS:				
Net Income-March 3, 1930 to June 30, 1974		152,854,473.00		
Miscellaneous and year to year adjustment		6,419,253.72		
Allocations from Hetch Hetchy Power Division		409,471.41		
Allocations from 1947 Hetch Hetchy Water Bond Fund		290,516.71	159,973,714.84	
Grant earned on Federal Public Works Project			2,358,987.60	
Book Value of Plant Appraisal - June 30, 1948j			83,864.03	$164,341,302.04
DEDUCTIONS:				
Allocated to General Fund			19,172,457.24	
Allocated to Hetch Hetchy Water Supply			4,466,014.40	
Lands allocated to City and County of San Francisco for Streets and/or Blvd.s			172,564.67	
Excess of adjusted book value of plant appraisal December 31, 1973	1,990,474.91			
Excess of adjusted book value of plant appraisal, June 30, 1953	188,291.42	2,178,766.33		
Book Value of Plant appraisal, June 30, 1958		89,383.93		
Book Value of Plant appraisal, June 30, 1963		91,365.18		
Book Value of Plant appraisal, June 30, 1968		25,823.00	2,385,338.44	26,196,374.75
NET CAPITAL INVESTMENT				$138,144,927.29

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "C"
COMPARATIVE INCOME STATMENT
TWELVE MONTHS ENDING - JUNE 30, 1974

TITLE	FISCAL YEAR 1973-1974	FISCAL YEAR 1972-1973	1973-1974 INCREASE (DECREASE)	MARCH 03, 1930 TO JUNE 30, 1974
OPERATING INCOME				
Sale of Water	$ 26,924,705.39	$26,759,101.77	$ 165,603.62	$600,901,412.64
OPERATING REVENUES DEDUCTIONS				
Operating Expenses	14,477,607.78	13,878,369.57	599,238.21	220,993,530.25
Purchase of Water	6,000,000.00	5,500,000.00	500,000.00	113,846,061.92
Depreciation	3,492,844.00	3,104,822.00	388,022.00	63,092,507.46
Taxes-Actual	1,517,518.00	1,562,184.84	(44,666.84)	29,843,103.55
TOTAL OPERATING REVENUE DEDUCTIONS	$25,487,969.78	$24,045,376.41	$1,442,593.37	$432,775,203.18
UTILITY OPERATING INCOME	1,436,735.61	$2,713,725.36	$(1,276,989.75)	$168,126,209.46
OTHER INCOME	10,221,056.62	2,037,394.51	8,183,662.11	39,133,908.00
GROSS INCOME	11,657,792.23	4,751,119.87	6,906,672.36	207,260,117.46
INCOME DEDUCTIONS	1,245,574.69	1,125,257.63	120,317.06	54,405,644.46
INCOME TRANSFERRED TO NET CAPITAL INVESTMENT	$10,412,217.54	$3,625,862.24	$6,786,355.30	$152,854,473.00

House Rent	$5,227.84	
Rents-including Share Crops.	779,476.46	
Contractor's Damage Claims	10,338.95	
Interest Revenue	252,003.80	
Turn-on Fees	2,318.55	
Fixed Asset Sales	8,568,477.75	
Miscellaneous	593,463.70	
Walnut Orchard	9,749.57	
TOTAL OTHER INCOME		$10,221.056.62
Non-Operating Revenue Deductions	$65,395.23	
Interest on Long-Term Debt	1,180,179.46	
TOTAL INCOME DEDUCTIONS		$1,245,574.69

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E"
COMPARATIVE INCOME STATEMENT
JUNE 30, 1974

TITLE		FISCAL YEAR 1973 - 1974	FISCAL YEAR 1972 - 1973	1973 - 1974 INCREASE (DECREASE)	MARCH 03, 1930 TO JUNE 30, 1974
OPERATING INCOME					
SALE OF WATER:					
Water Sales - San Francisco		$12,330,399.14	$12,487,397.22	$(156,998.08)	
Water Sales-Outside of San Francisco		12,968,715.21	12,636,220.56	332,494.65	
Water Sales-Municipal Departments-Paying		112,351.70	112,034.69	317.01	
Water Sales-Municipal Departments-Non-Paying		1,513,239.34	1,523,449.30	(10,209.96)	
TOTAL WATER SALES		$26,924,705.39	$26,759,101.77	$ 165,603.62	$600,901,412.64
OPERATING REVENUE DEDUCTIONS					
SOURCE OF SUPPLY:					
Operating, Supervision and Engineering	701	$43,358.90	$ 115,502.90	$(72,144.00)	
Operating, Labor and Expense	702	890,187.24	717,829.27	172,357.97	
Miscellaneous Expenses	703	672.94	2,156.92	(1,483.98)	
Maintenance, Supervision and Engineering	706	466.13	74.89	391.24	
Maintenance of Structure and Improvements	707	61,353.90	97,310.17	(35,956.27)	
Maintenance of Collecting and Impounding Reservoirs	708	350,765.80	316,181.35	34,584.45	
Maintenance of Lake, River and Other Intakes	709	1,646.96	712.92	934.04	
Maintenance of Springs and Tunnels	710	1,479.67	5,497.37	(4,017.70)	
Maintenance of Wells	711	6,128.25	761.79	5,366.46	
Maintenance of Supply Mains	712	123,196.10	114,228.32	8,967.78	
Maintenance of Other sources of Supply Plant	713		62.82	(62.82)	
Hydrography	718	4,252.86	884.42	3,368.44	
TOTAL SOURCE OF SUPPLY EXPENSES		$1,483,503.75	$1,371,203.14	$ 112,305.61	$24,318,354.11
PUMPING EXPENSES					
Pumping Labor and Expenses	724	$ 241,355.19	$ 172,990.42	$68,364.77	
Miscellaneous Supplies & Expenses	725	1,623.73	1,015.21	608.52	
Fuel or Power Purchased for Pumping	726	222,116.32	333,877.11	(111,760.79)	
Maintenance, Supervision and Engineering	729	26.25	91.63	(65.38)	
Maintenance of Structures and Improvements	730	71,637.84	11,729.90	59,907.94	
Maintenance of Primary Pumping Equipment	731	12,098.09	236.43	11,861.66	
Maintenance of Pumping Equipment	732	53,955.02	29,109.53	24,845.49	
Gardening	734	34,395.39	6,389.05	28,006.34	
TOTAL PUMPING EXPENSES		$ 637,207.83	$ 555,439.28	$81,768.55	$15,515,272.79
PURIFICATION EXPENSES ACCOUNTS					
Operating, Supervision and Engineering	741	$75,168.90	$77,778.01	$ (2,609.11)	
Operating, Labor, and Expenses	742	846,285.19	659,932.68	186,352.51	
Miscellaneous Expenses	743	142.18	234.79	(92.61)	
Supplies and Expenses	744	416,492.75	473,494.32	(57,001.57)	
Maintenance, Supervision and Engineering	746	620.52		620.52	
Maintenance of Structures and Improvements	747	58,816.55	69,976.55	(11,160.00)	
Maintenance of Water Treatment Equipment	748	23,028.12	21,047.53	1,980.59	
TOTAL PURIFICATION EXPENSES		$1,420,554.21	$1,302,463.88	$ 118,090.33	$13,206,537.31

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT
EXHIBIT "E" (CONT'D)
COMPARATIVE INCOME STATEMENT
JUNE 30, 1974

TITLE		FISCAL YEAR 1973 - 1974	FISCAL YEAR 1972 - 1973	1973 - 1974 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1974
OPERATING REVENUE DEDUCTIONS (CONT'D)					
TRANSMISSION AND DISTRIBUTION ACCOUNT					
Operation, Supervision, and Engineering	751	$ 298,034.07	$ 287,858.29	$ 10,175.78	$
Storage Facilities Expenses	752	1,026.31	3,784.70	(2,758.39)	
Transmission and Distribution Lines Expenses	753	214,349.79	228,925.39	(14,575.60)	
Meter Expenses	754	325,842.03	312,675.44	13,166.59	
Customer Installation Expenses	755	502,262.47	457,436.57	44,825.90	
Miscellaneous	756	33,983.87	23,553.20	10,430.67	
Operating Expenses - City Yard	757	322,471.40	411,707.62	(89,236.22)	
Maintenance, Supervision and Engineering	758	10,846.26	5,748.92	5,097.34	
Maintenance of Structures and Improvements	759	158,677.66	163,928.10	(5,250.44)	
Maintenance of Reservoirs and Tanks	760	16,466.07	27,036.44	(10,570.37)	
Maintenance of Transmission Lines and Canals	761	102,004.14	142,304.30	(40,300.16)	
Maintenance of Services	763	1,066,686.66	1,139,999.50	(73,312.84)	
Maintenance of Miscellaneous Plant	766	198,272.42	192,238.69	6,033.73	
Maintenance of Distribution Mains, Canals, etc.	767	1,169,809.42	1,239,597.06	(69,787.64)	
Reconditioning of Salvaged Materials	768	1.95		1.95	
Recoverable Claims - Mains and Services	769	5,426.94	16,776.52	(11,349.58)	
TOTAL TRANSMISSION & DISTRIBUTION ACCOUNTS		$ 4,426,161.46	$ 4,653,570.74	$ (227,409.28)	$ 61,810,595.73
CUSTOMER'S ACCOUNTS EXPENSES					
Meter Reading Expenses	772	173,528.58	168,614.62	4,913.96	
Customer Records andCollection Expenses	773	223,714.49	235,242.55	(11,528.06)	
Miscellaneous Customer Accounts Expenses	774	229,622.62	219,495.05	10,127.57	
Inspection and Service	775	204,228.76	183,963.92	20,264.84	
Bookkeeping Department	776	199,067.76	192,046.13	7,021.63	
Shipping	777	55,855.03	60,839.22	(4,984.19)	
TOTAL CUSTOMER'S ACCOUNTS EXPENSES		$ 1,086,017.24	$ 1,060,201.49	$ 25,815.75	$ 26,624,020.82
ADMINISTRATIVE AND GENERAL					
Salaries - General Officers	780	39,764.40	38,290.30	1,474.10	
Salaries - General Office	781	250,803.45	227,623.53	23,179.92	
General Engineering	782	557,927.32	613,023.50	(55,096.18)	
Resources and Planning	783	63,916.90	57,097.05	6,819.85	
Office Supplies and Other Expenses	784	29,479.14	27,842.58	1,636.56	
Telephone Service	785	112,133.11	115,351.42	(3,218.31)	
Mason Street Operating Expenses	786	105,198.28	104,526.47	671.81	
Municipal Taxes - Comparison	787	1,513,239.34	1,523,537.24	(10,297.90)	
Outside Services Employed	788	43,282.22	102.10	43,180.12	
Insurance - Compensation	789	243,009.90	103,590.69	139,419.21	
Insurance - Other	790	20,275.45	21,826.45	(1,551.00)	
Injuries and Damages	791	97,013.47	82,398.60	14,614.87	
Pensions	792	891,537.45	755,042.58	136,494.87	
Social Security	793	336,548.69	292,090.12	44,458.57	
Electronic Data Processing	794	479,284.03	293,281.79	186,002.24	
Public Utilities Commission	798	266,358.65	346,659.00	(80,300.35)	
Maintenance to Telephone System	805	15,722.63	7,725.29	7,997.34	
Maintenance to 425 Mason Street Building	807	11,611.00	10,874.90	736.10	
Maintenance to Radio System	808	9,259.31	13,634.46	(4,375.15)	
Inventory Expense - Maintenance	809	16,069.95	24,500.24	(8,430.29)	
Maintenance of Non-Operative Property	810	1,211.18	992.52	218.66	
Miscellaneous Maintenance	806,811,812,813	268,261.68	184,012.98	84,248.70	
TOTAL ADMINISTRATION AND GENERAL EXPENSES		$ 5,371,907.55	$ 4,844,023.81	$ 527,883.74	$ 77,484,673.42

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT
EXHIBIT "E" (CONT'D)
COMPARATIVE INCOME STATEMENT
JUNE 30, 1974

TITLE		FISCAL YEAR 1973 - 1974	FISCAL YEAR 1972 - 1973	1973 - 1974 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1974
OPERATING REVENUE DEDUCTIONS (CONT'D)					
MISCELLANEOUS EXPENSES					
Uncollectible Water Bills	814	$ 47,596.95	$ 58,763.50	$(11,166.55)	
Provision for Contigeny Funds	815	4,507.25	32,322.35	(27,815.10)	
Undistributed Operating Expenses	817	146.54	381.38	(234.84)	
TOTAL MISCELLANEOUS EXPENSES		52,250.74	91,467.23	(39,216.49)	1,534,076.07
TOTAL OPERATING REVENUE DEDUCTIONS		$ 14,477,607.78	$ 13,878,369.57	$ 599,238.21	$ 220,993,530.25
OPERATING EXPENSES					
Purchase of Water	502.1	6,000,000.00	5,500,000.00	500,000.00	
Depreciation	503	3,492,844.00	3,104,822.00	388,022.00	
Taxes - Actual	507	1,517,518.00	1,562,184.84	(44,666.84)	
TOTAL OPERATING EXPENSES		$ 11,010,362.00	$ 10,167,006.84	$ 843,355.16	$ 211,781,672.93
TOTAL OPERATING REVENUE DEDUCTIONS & OPERATING EXPENSES		$ 25,487,969.78	$ 24,045,376.41	$ 1,442,593.37	$ 432,775,203.18
UTILITY OPERATING INCOME		$ 1,436,735.61	$ 2,713,725.36	$(1,276,989.75)	$ 168,126,209.46
OTHER INCOME					
Rentals, inculuding Crops Shares	521	779,476.46	810,134.19	(30,657.73)	
Walnut Orchard Sales	526	9,749.57	5,622.16	4,127.41	
Miscellaneous (See Exhibit C)		611,349.04	806,647.09	(195,298.05)	
Interest Earned	524	252,003.80	159,105.31	92,898.49	
Sales of Real Estate and Fixed Assets	526	8,568,477.75	255,885.76	8,312,591.99	
TOTAL OTHER INCOME		$ 10,221,056.62	$ 2,037,394.51	$ 8,183,662.11	$ 39,133,908.00
GROSS INCOME		11,657,792.23	4,751,119.87	6,906,672.36	207,260,117.46
INCOME DEDUCTIONS					
Agricultural Division	850-854	65,395.23	120,915.50	(55,520.27)	
Interest on Long-Term Debt	530	1,180,179.46	1,004,342.13	175,837.33	
TOTAL INCOME DEDUCTIONS		$ 1,245,574.69	$ 1,125,257.63	$ 120,317.06	$ 54,405,644.46
NET INCOME TRANSFERRED TO NET CAPITAL INVESTMENT		$ 10,412,217.54	$ 3,625,862.24	$ 6,786,355.30	$ 152,854,473.00

BOND INTEREST AND REDEMPTION

WATER DEPARTMENT

	REDEMPTION			INTEREST			TOTAL REDEMPTION PLUS INTEREST
	MUNI WATER 1961	MUNI WATER 1972	SYSTEM TOTAL	MUNI WATER 1961	MUNI WATER 1972	SYSTEM TOTAL	
1973-74	$ 2,691,376	———	$ 2,691,376	$1,203,376	$ 43,919	$ 1,247,295	$ 3,938,671
1974-75	2,691,371	$ 250,000	2,941,371	1,097,448	262,000	1,359,448	4,300,819
1975-76	2,691,373	250,000	2,941,373	994,277	247,000	1,241,277	4,182,650
1976-77	2,694,799	250,000	2,944,799	899,224	232,000	1,131,224	4,076,023
1977-78	2,694,801	250,000	2,944,801	808,353	217,000	1,025,353	3,970,154
1978-79	2,691,370	250,000	2,941,370	717,797	202,250	920,047	3,861,417
1979-80	2,691,374	250,000	2,941,374	627,064	188,916	815,980	3,757,354
1980-81	2,691,370	250,000	2,941,370	536,012	176,417	712,429	3,653,799
1981-82	2,691,374	250,000	2,941,374	444,737	163,917	608,654	3,550,028
1982-83	2,451,375	250,000	2,701,375	352,868	151,416	504,284	3,205,659
1983-84	1,563,397	250,000	1,813,397	268,066	138,917	406,983	2,220,380
1984-85	1,563,396	250,000	1,813,396	208,524	126,417	334,941	2,148,337
1985-86	1,477,686	250,000	1,727,686	149,899	113,916	263,815	1,991,501
1986-87	1,196,546	250,000	1,446,546	106,612	101,417	208,029	1,654,575
1987-88	596,561	250,000	846,561	79,394	88,917	168,311	1,014,872
1988-89	390,848	250,000	640,848	52,665	76,376	129,041	769,889
1989-90	267,423	250,000	517,423	34,124	63,584	97,708	615,131
1990-91	267,423	250,000	517,423	21,130	50,562	71,692	589,115
1991-92	119,998	250,000	369,998	8,136	37,438	45,574	415,572
1992-93	47,999	250,000	297,999	2,448	24,292	26,740	324,739
1993-94	———	250,000	250,000	———	11,042	11,042	261,042
	$34,171,860	$5,000,000	$39,171,860	$8,612,154	$2,717,713	$11,329,867	$50,501,727
ORIGINAL AMOUNT AND INTEREST RATE							
	$49,505,112	$5,000,000	$54,505,112	2¼% to 6%		5% to 6%	

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

RAW WATERS - SOURCES AND RESERVOIRS

1973-1974

Origin of Sample	Agar Count No. Per Ml.			Coliform Group 10 ml. portions			Samples		
	Min.	Max.	Median	No. Exam.	No. Pos.	% Pos.	No. Exam.	No. Pos.	% Pos.
Moccasin Reservoir	>300	>3000	>3000	230	185	80.4	46	39	84.8
Tesla Portal	1	>3000	10	230	46	20.0	46	7	15.2
Calaveras Reservoir	1	>3000	150	245	181	73.9	49	37	75.5
Calaveras Outlet	10	>3000	200	255	171	67.0	51	35	68.6
Sunol Filters	1	>3000	100	255	159	62.4	51	32	62.7
Pleasanton Well Field	1	200	1	250	3	1.2	50	0	0
Pleasanton Town Well	1	>300	1	250	0	0	50	0	0
San Antonio Reservoir	10	>3000	>300	255	191	74.9	51	36	70.6
San Antonio Outlet	10	>3000	150	255	113	443	51	19	37.3
Upper C.S. Reservoir	6	>3000	150	225	151	67.1	45	32	71.1
Lower C.S. Reservoir	5	>3000	72	260	158	60.8	52	35	67.3
Lower C.S. Outlet	1	>3000	20	1275	533	41.8	255	104	40.8
San Andreas Reservoir	1	>3000	20	255	135	52.9	51	29	56.9
San Andreas Outlet	1	500	12	1560	135	8.7	312	29	9.3
Pilarcitos Surface	7	>3000	40	260	193	74.2	52	40	76.9
Pilarcitos P.L.	1	1000	90	255	197	77.3	51	37	72.5
Stone Dam Surf.	10	2000	140	255	253	99.2	51	51	100
Stone Dam Outlet	10	>3000	150	250	245	98.0	50	50	100
				MPN					
				Min.	Max.	Median			
Lake Merced North	10	>3000	100	2	3500	27	48	43	89.6
Lake Merced South +	10	>3000	150	6.8	>24000	46	48	47 .	97.9
Laguna Creek	1000	>3000	>3000	33	>24000	2400	48	48	100
Alameda Creek	10	>3000	500	64	>24000	950	42	42	100

\+ Emergency Standby Source

MPN: Most Probable Number of Coliform Organisms per 100 Milliliters

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

1973-1974

Origin of Sample	Agar Count No. Per Ml.			Coliform Group 10 ml. portions			Samples°		
	Min.	Max.	Median	No. Exam.	No. Pos.	% Pos.	No. Exam.	No. Pos.	% Pos.
DISTRIBUTION RESERVOIR WITH CHLORINATION FACILITIES									
Lombard Reservoir	1	5	1	520	5	1.0	104	1	1.0
Univ. Md Res. #1	1	>300	1	500	87	17.4	100	15	15
Univ. Md. Res. #2	1	>300	1	520	12	2.3	104	2	1.9
College Hill Res.	1	10	1	520	2	0.4	104	0	0
Sunset Res. #1	1	100	1	520	20	3.8	104	3	2.9
Sunset Res. #2	1	10	1	520	63	12.1	104	10	9.6
Merced Manor Res.	1	30	1	520	6	1.2	104	1	1.0
Stanford Hts. Res.	1	50	1	520	7	1.3	104	1	1.0
Sutro Reservoir	1	>300	1	535	105	19.6	107	20	18.7
Summit Reservoir	1	50	1	520	119	22.9	104	19	18.3
Francisco Reservoir	1	10	1	520	5	1.0	104	0	0
Potrero Hts. Reservoir	1	2	1	455	2	0.4	91	0	0
McLaren Tank	1	10	1	520	2	0.4	104	0	0
Niles Reservoir	1	50	1	255	2	0.8	51	0	0
TREATED WATER									
Alameda East	1	10	1	245	5	2.0	49	1	2.0
Calaveras Pipeline	1	>300	130	260	36	13.8	52	8	15.4
San Antonio Pipeline	1	>300	100	260	85	32.7	52	14	26.9
Sunol Filter Plant	1	10	1	260	1	0.4	52	0	0
Sunol Town Supply	1	150	1	520	0	0	104	0	0
Sunol Aqueduct N° & S°	1	>300	1	255	3	1.2	51	0	0
Irvington Meter	1	6	1	415	0	0	83	0	0
Bay Cross. Pipeline #1	1	>300	1	1310	5	0.4	262	1	0.4
Bay Cross. Pipeline #2	1	>300	1	1310	0	0	262	0	0
Bay Cross. Pipeline #3	1	>300	1	1310	0	0	262	0	0
Bay Cross. Pipeline #4	1	>300	1	1310	0	0	262	0	0
Palo Alto Pipeline	1	6	1	770	6	0.8	154	1	0.6
S.S.L. Casey Quarry	1	>300	1	1560	0	0	312	0	0
C.S. #2 Casey Quarry	1	35	1	1555	0	0	311	0	0
S.F. Airport North	1	>300	1	1300	16	1.2	260	3	1.2
S.F. Airport South	1	50	1	1310	3	0.2	262	1	0.4
Crystal Springs Pipeline #1									
Crystal Springs Pipeline #2	1	10	1	1555	0	0	311	0	0
San Andreas #2 Inlet	1	50	1	1560	121	7.8	312	16	5.1
San Andreas #3 Inlet	1	15	1	1560	85	5.4	312	17	5.4
San Andreas F.P. #1 Outlet	1	15	1	1550	5	0.3	310	1	0.3
San Andreas F.P. #2 Outlet	1	5	5	1560	0	0	312	0	0
S.S.L. at Millbrae	1	25	1	1555	10	0.6	311	2	0.6
San Andreas #2 Baden	1	20	1	1310	3	0.2	262	1	0.4
Univ. Md. Inlet #1									
Univ. Md. Inlet #2	1	30	1	520	1	0.2	104	0	0
Univ. Md Outlet #1	1	2	1	515	0	0	103	0	0
Univ. Md. Outlet #2	1	5	1	520	0	0	104	0	0
Univ. Md. System #1	1	1	1	520	0	0	104	0	0

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

1973-1974

Origin of Sample	Agar Count No. Per Ml.			Coliform Group 10 ml. portions			Samples°		
	Min.	Max.	Median	No. Exam.	No. Pos.	% Pos.	No. Exam.	No. Pos.	% Pos.
Univ. Md. System #2	1	>300	1	520	0	0	104	0	0
Univ. Md. System #3	1	25	1	520	4	0.8	104	1	1.0
Univ. Md. System #4	1	20	1	510	0	0	102	0	0
Univ. Md. System #5	1	2	1	515	0	0	103	0	0
Univ. Md. System #6	1	10	1	410	0	0	82	0	0
Univ. Md. System #7	1	5	1	520	1	0.2	104	0	0
Univ. Md. System #8	1	300	1	520	0	0	104	0	0
College Hill Inlet	1	1	1	520	0	0	104	0	0
College Hill Outlet	1	4	1	515	3	0.6	103	1	1.0
College Hill System #1	1	2	1	520	0	0	104	0	0
College Hill System #2	1	50	1	520	1	0.2	104	0	0
Sunset Inlet #1	1	2	1	520	0	0	104	0	0
Sunset Outlet #1	1	30	1	520	0	0	104	0	0
Sunset Outlet #2	1	75	1	520	1	0.2	104	0	0
Sunset System #1	1	10	1	520	0	0	104	0	0
Sunset System #2	1	2	1	520	0	0	104	0	0
Sunset System #3	1	100	1	520	1	0.2	104	0	0
Sunset System #4	1	>300	1	390	0	0	78	0	0
Sunset System #5	1	30	1	520	0	0	104	0	0
Sunset System #6	1	75	1	485	1	0.2	97	0	0
Sunset System #7	1	3	1	520	0	0	104	0	0
Sunset System #8	1	10	1	520	0	0	104	0	0
Sunset System #9	1	>300	1	520	1	0.2	104	0	0
Potrero Hts. Tank	1	5	1	515	0	0	103	0	0
Potrero Hts. Res. Outlet	1	12	1	520	1	0.2	104	0	0
Potrero Hts. System	1	10	1	520	2	0.4	104	0	0
Lombard System	1	30	1	520	0	0	104	0	0
Merced Manor System #1	1	15	1	520	3	0.6	104	0	0
Merced Manor System #2	1	>300	1	520	6	1.2	104	1	1.0
Stanford Hts. Inlet	1	5	1	520	0	0	104	0	0
Stanford Hts. Outlet	1	10	1	520	0	0	104	0	0
Stanford Hts. System #1	1	100	1	520	1	0.2	104	0	0
Stanford Hts. System #2	1	3	1	520	3	0.6	104	0	0
Stanford Hts. System #3	1	30	1	520	3	0.6	104	0	0
Sutro Outlet	1	20	1	520	3	0.6	104	1	1.0
Sutro System #1	1	6	1	520	3	0.6	104	0	0
Sutro System #2	1	5	1	520	0	0	104	0	0
Sutro System #3	1	4	1	520	5	1.0	104	1	1.0
Sutro System #4	1	>300	1	520	12	2.3	104	1	1.0
McLaren System #1	1	150	1	520	6	1.2	104	1	1.0
McLaren System #2	1	50	1	520	9	1.7	104	1	1.0
Summit Outlet	1	50	1	520	2	0.4	104	0	0
Summit System	1	1	1	215	1	0.5	43	0	0

SAN FRANCISCO WATER DEPARTMENT
MINERAL ANALYSES
TABLE I

Source	A Hetch Hetchy Reservoir (surface)	B Alameda East Portal (treated water)
Date Sampled	May 15, 1974	June 5, 1974
CHEMICAL CONSTITUENTS	mg/liter	mg/liter
Cations (+)		
Aluminum	0.04	0.05
Arsenic	<0.004	<0.004
Barium	<0.1	<0.1
Boron	0.008	0.009
Cadmium	<0.001	<0.001
Calcium	1.0	5
Chromium	<0.005	<0.005
Copper	<0.01	<0.01
Iron	0.01	0.01
Lead	<0.002	<0.002
Magnesium	0.5	1.0
Manganese	<0.05	<0.05
Mercury	0.002	0.002
Potassium	0.2	0.2
Selenium	<0.01	<0.01
Silver	<0.025	<0.025
Sodium	1.8	2.7
Zinc	<0.05	<0.05
Anions (-)		
Bicarbonate	6.1	8.5
Carbonate	0	3.6
Chloride	0.5	3.0
Cyanide	<0.01	<0.01
Fluoride	0	0
Hydroxide	0	0
Nitrate	0	0
Nitrite	<0.002	<0.002
Phosphate	0.03	<0.01
Sulfate	1.4	2.5
Nonionics		
Total Apparent ABS	0.01	0.01
Ammonia (Albuminoid NH_3)	0.02	0.02
Ammonia (Free NH_3)	0.01	0.01
Dissolved Oxygen (O_2)	10.2	12.4
Carbonate equivalent	3.0	7.8
Silica (SiO_2) (Soluble SiO_2)	5	5
Tannins & Lignins	<0.01	0.01
Derived Values		
Hardness as $CaCO_3$	3	14
Alkalinity as $CaCO_3$	5	13
Total Solids		
Residue at 200°C	7.2	23.4
Physical Measurements		
Conductivity (Micromhos/CM)	12	39
pH	7.0	9.4
Turbidity (Units)	0.3	0.5
Color (Units)	0	0

SAN FRANCISCO WATER DEPARTMENT
MINERAL ANALYSES
TABLE II

Source	C Sunol Valley Filter Plant (filtered water)	D Calaveras Pipeline (unfiltered water)	E San Antonio Reservoir (surface)
Date Sampled	June 5, 1974	June 5, 1974	June 5, 1974
CHEMICAL CONSTITUENTS	mg/liter	mg/liter	mg/liter
Cations (+)			
Aluminum	0.08	0.01	0.01
Arsenic	<0.004	<0.004	<0.004
Barium	<0.1	<0.1	<0.1
Boron	0.026	0.025	0.055
Cadmium	<0.001	<0.001	<0.001
Calcium	27.8	27.9	33.9
Chromium	<0.005	<0.005	<0.005
Copper	<0.01	0.01	<0.01
Iron	<0.01	<0.01	<0.01
Lead	<0.002	<0.002	<0.002
Magnesium	10.8	8.8	12.2
Manganese	<0.05	0.20	<0.05
Mercury	0.0006	0.001	0.0006
Potassium	0.9	1.0	1.7
Selenium	<0.01	<0.01	<0.01
Silver	<0.025	<0.025	<0.025
Sodium	10.8	9.5	16.4
Zinc	<0.05	<0.05	<0.05
Anions (-)			
Bicarbonate	126.9	119.6	145.2
Carbonate	0	0	3.0
Chloride	10.5	6.5	16.5
Cyanide	<0.01	<0.01	<0.01
Fluoride	0	0	0
Hydroxide	0	0	0
Nitrate	0.08	<0.05	0
Nitrite	<0.002	0.003	<0.002
Phosphate	0.02	0.04	0.05
Sulfate	18.8	19.7	23.2
Nonionics			
Total Apparent ABS	0.01	0.01	0.01
Ammonia (Albuminoid NH_3)	0.01	0.02	0.02
Ammonia (Free NH_3)	0.01	0.01	0.01
Dissolved Oxygen (O_2)	9.0	4.3	9.1
Carbonate equivalent	62.4	58.8	74.4
Silica (SiO_2) (Soluble SiO_2)	8	8.4	<1.0
Tannins & Lignins	<0.01	0.01	0.01
Derived Values			
Hardness as $CaCO_3$	114	106	135
Alkalinity as $CaCO_3$	104	98	124
Total Solids			
Residue at 200°C	156.6	144.0	174.0
Physical Measurements			
Conductivity (Micromhos/CM)	261	240	290
pH	7.8	7.6	8.4
Turbidity (Units)	0.3	1	1
Color (Units)	0	0	0

SAN FRANCISCO WATER DEPARTMENT
MINERAL ANALYSES
TABLE III

Source	F Crystal Springs Lines (treated)	G San Andreas Lines (filtered water)
Date Sampled	May 21, 1974	May 21, 1974
CHEMICAL CONSTITUENTS	mg/liter	mg/liter
Cations (+)		
Aluminum	0.11	0.10
Arsenic	<0.004	<0.004
Barium	<0.1	<0.1
Boron	0.015	0.017
Cadmium	<0.001	<0.001
Calcium	18.6	16.0
Chromium	<0.005	<0.005
Copper	<0.01	<0.01
Iron	0.2	<0.01
Lead	<0.002	<0.002
Magnesium	5.5	5.1
Manganese	<0.05	<0.05
Mercury	0.0006	0.0006
Potassium	0.7	0.5
Selenium	<0.01	<0.01
Silver	<0.025	<0.025
Sodium	9.0	12.7
Zinc	<0.05	<0.05
Anions (-)		
Bicarbonate	63.4	58.6
Carbonate	0	0
Chloride	14.5	17.5
Cyanide	<0.01	<0.01
Fluoride	0.9	0.8
Hydroxide	0	0
Nitrate	<0.05	<0.05
Nitrite	<0.002	<0.002
Phosphate	0.01	0.01
Sulfate	14.1	13.7
Nonionics		
Total Apparent ABS	0.01	0.01
Ammonia (Albuninoid NH_3)	0.02	0.02
Ammonia (Free NH_3)	0.01	0.01
Dissolved Oxygen (O_2)	9.1	9.5
Carbonate equivalent	31.2	28.8
Silica (SiO_2) (Soluble SiO_2)	8	8
Tannins & Lignins	0.01	<0.01
Derived Values		
Hardness as $CaCO_3$	69	61
Alkalinity as $CaCO_3$	52	48
Total Solids		
Residue at 200°C	103.2	106.2
Physical Measurements		
Conductivity (Micromhos/CM)	172	177
pH	7.7	7.8
Turbidity (Units)	5	0.4
Color (Units)	0	0

SAN FRANCISCO WATER DEPARTMENT
MINERAL ANALYSES
TABLE IV

Source	H Pilarcitos Reservoir (surface)	I Stone Dam Reservoir (surface)	J Pleasanton Well Field (treated)	K Lake Merced (s) Reservoir (surface)
Date Sampled	May 22, 1974	May 22, 1974	June 5, 1974	June 24, 1974
CHEMICAL CONSTITUENTS	mg/liter	mg/liter	mg/liter	mg/liter
Cations (+)				
Aluminum	0.02	0.01	0.01	0.01
Arsenic	<0.004	<0.004	<0.004	<0.004
Barium	<0.1	<0.1	<0.1	<0.1
Boron	0.012	0.006	0.102	0.019
Cadmium	<0.001	<0.001	<0.001	<0.001
Calcium	19.2	28.2	50.4	18.0
Chromium	<0.005	<0.005	<0.005	<0.005
Copper	<0.01	<0.01	<0.01	<0.01
Iron	0.02	<0.01	<0.01	<0.01
Lead	<0.002	<0.002	<0.002	<0.002
Magnesium	8.0	13.0	36.0	27.0
Manganese	<0.05	<0.05	<0.05	<0.05
Mercury	0.0006	0.002	0.001	0.0006
Potassium	0.4	0.6	1.2	1.3
Selenium	<0.01	<0.01	<0.01	<0.01
Silver	<0.025	<0.025	<0.025	<0.025
Sodium	13.5	18.0	32.5	48.0
Zinc	<0.05	<0.05	<0.05	<0.05
Anions (-)				
Bicarbonate	91.5	134.2	270.8	146.4
Carbonate	0	0	0	9.6
Chloride	20.0	32.0	46.5	71.5
Cyanide	<0.01	<0.01	<0.01	<0.01
Fluoride	0	0	0	0.3
Hydroxide	0	0	0	0
Nitrate	<0.05	<0.05	7.4	<0.05
Nitrite	0.002	0.003	<0.002	<0.002
Phosphate	0.01	0.05	0.03	0.06
Sulfate	7.2	8.2	50.5	23.4
Nonionics				
Total Apparent ABS	0.01	0.01	0.02	0.02
Ammonia (Albuminoid NH_3)	0.02	0.03	0.02	0.20
Ammonia (Free NH_3)	0.01	0.01	0.01	0.01
Dissolved Oxygen (O_2)	9.6	11.1	8.1	10.4
Carbonate equivalent	45.0	66.0	132.2	81.6
Silica (SiO_2) (Soluble SiO_2)	12	15	15	22
Tannins & Lignins	0.01	<0.01	0.01	0.10
Derived Values				
Hardness as $CaCO_3$	81	124	274	156
Alkalinity as $CaCO_3$	75	110	222	136
Total Solids				
Residue at 200°C	119.4	173.4	380.4	273.0
Physical Measurements				
Conductivity (Micromhos/CM)	199	289	634	455
pH	8.2	8.3	7.5	8.9
Turbidity (Units)	2	0.7	0.3	5
Color (Units)	0	5	0	5

TABLE NO. 4

LENGTH OF VARIOUS SIZES OF TRANSMISSION MAINS IN FEET

	28"	30"/33"*	36"	37"/39"*	42"	44"	48"	54"	57"	60"
Pleasanton		27,432								
Niles-Irvington						15,600				
Calaveras						30,570	1,045			
Bay Division #1					3,161s				6,821	102,131
Bay Division #2					250r			6,066s		
Bay Division #3										
Alameda Cr. Siphon										
Crystal Springs #1			123			84,821		358		4,948
Crystal Springs #2		669			100			16,757		84,317
C. S. Bypass Pipeline										75
Sunset & C. S. #3										17,549
Sunset Pipeline								337		46,030
San Andreas Branch of Sunset Pipeline										41
San Andreas #1			2,334		3,150	21,048				
San Andreas #2								64,781		
Baden-Merced		32,304	2,260	1,500						
San Andreas Outlet Conn. Pipes		5,024						869		1,739
Palo Alto			28,049							
Pilarcitos Aqueduct	7,480	169*	648			370				
Stone Dam Aqueduct		501		1,814*		2,106	2,894			
C.S. - S.A. Aqueduct		103				30				23,218
San Antonio								110		10,940
Sunol Pump		170	7,697							
TOTAL	7,480	66,372	41,111	3,314	6,661	154,905	3,939	89,278	6,821	290,988

s - submarine pipes

r - risers

(continued)

TABLE NO. 4

LENGTH OF VARIOUS SIZES OF TRANSMISSION MAINS IN FEET (cont'd)

	61"/62"*	66"/69"*	72"	76"*/78"	79"	84"	90/91"*	96"	Total Feet	Miles
Pleasanton									27,432	5.19
Niles-Irvington									15,600	2.95
Calaveras									31,615	5.99
Bay Division #1									112,113	21.23
Bay Division #2	26,094*	78,856		3,867*					115,133	21.81
Bay Division #3			132,828	45,092			1,188		179,108	33.92
Bay Division #4			672			42,588	90,469	44,966	178,695	33.84
Alameda Creek Siphon		2,942*	93				2,972	2,941	8,948	1.70
Crystal Springs #1									90,250	17.09
Crystal Springs #2				716					102,559	19.42
C. S. Bypass Pipeline								4,425	4,500	0.86
Sunset & C. S. #3	1,529			145	14,629		5,311		39,163	7.41
Sunset Pipeline	37,952								84,319	15.97
San Andreas Br. of Sunset Pipeline	5,978								6,019	1.14
San Andreas #1									26,532	5.04
San Andreas #2									64,781	12.26
Baden-Merced									36,064	6.83
San Andreas Outlet Conn. Pipes	873		1,276						9,781	1.85
Palo Alto									28,049	5.31
Pilarcitos Aqueduct									9,027	1.71
Stone Dam Aqueduct									7,315	1.39
C. S. & S. A. Aqueduct		356	820						24,527	4.66
San Antonio									11,050	2.09
Sunol Pump									7,867	1.49
Sunol Plant to Siphon				8,512					8,512	1.61
TOTALS	72,426	82,154	135,689	58,332	14,629	42,588	99,940	52,332	1,228,959	232.76

METERS - NUMBER AND SIZE IN SERVICE
SAN FRANCISCO DISTRICT AS OF JUNE 30,1974

CLASS OF CONSUMERS	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	10"	12"	Total
REVENUE PRODUCING												
Commercial	13,521	1,743	4,148	3,438	6,519	312	550	686	493	4	3	31,417
Residential	114,370	10,018	2,993	413	66	-	-	-	-	-	-	127,860
Docks & Shipping	78	9	30	35	118	-	-	1	3	2	-	276
Total	127,969	11,770	7,131	3,886	6,703	312	550	687	496	6	3	159,553
NON-REVENUE PRODUCING												
Commercial	1,345	53	81	76	90	10	7	11	9	-	-	1,682
Residential	1,012	47	8									1,067
Docks & Shipping	16	1	1	5	7	-	-	-	-	-	-	30
Total	2,373	101	90	81	97	10	7	11	9	-	-	2,779
TOTALS												
Commercial	14,866	1,796	4,229	3,514	6,609	322	557	697	502	4	3	33,099
Residential	115,382	10,065	3,001	413	66							128,927
Docks & Shipping	94	10	31	40	125			1	3	2	-	306
Total	130,342	11,871	7,261	3,967	6,800	322	557	698	505	6	3	162,332

Total meters in service as of June 30, 1974		162,332
Less: Extra meters in 1,451 Batteries (4,227-1,451)	2,776	
Extra meters in 9 Consolidations (29-9)	20	
Non-Revenue meters (Temporarily shut-off)	2,779	5,575
Number of active Accounts as of June 30, 1974		156,757

The above meter count includes 2,603 Fire Services at Docks & Shipping Office, portable meters used on Hydrants as needed 29 - 1½" and 29 - 2" meters on Hydrants in use by Builders and Contractors 49 - 1" and 57 - 2"

PREVIOUS RECORDS	1969-70	1970-71	1971-72	1972-73	1973-74
Total Meters	162,334	162,344	162,105	162,207	162,332
Increase	- 72	10	- 239	102	125
Idle Meters	2,712	2,981	2,651	2,919	2,779

METERS - NUMBER AND SIZE IN SERVICE
SUBURBAN DISTRICT AS OF JUNE 30, 1974

CLASS OF CONSUMERS	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	10"	12"	16"	Total
REVENUE PRODUCING													
Regular Rates	362	35	34	15	118	1	22	88	103	32	5	7	823
Airport Use	8	8	17	10	43	-	5	11	16	4	2	-	124
Total	370	43	51	26	161	1	27	99	119	36	7	7	947
NON-REVENUE PRODUCING													
Regular Rates	5	-	1	1	1	-	-	1	5	2	-	-	16
Airport Use													
Total	5	-	1	1	1	-	-	1	5	2	-	-	16
TOTALS													
Regular Rates	367	35	35	17	119	1	22	89	108	34	5	7	839
Airport Use	8	8	17	10	43	-	5	11	16	4	2	-	124
Total	375	43	52	27	162	1	27	100	124	38	7	7	963

Total meters in service as of June 30, 1974		963
Less extra meters in 95 batteries and consolidations (413-95)	318	
Non-Revenue meters (temporarily shut-off)	16	334
Number of active Suburban Accounts as of June 30, 1974		629

PREVIOUS RECORDS	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
Total Meters	911	932	936	945	943	963
Increase	- 11	21	4	9	- 2	20
Idle Meters	14	16	15	23	21	16

TABLE NO. 5

PIPE RECORDS
CITY DISTRIBUTION SYSTEM

Size	Total Pipe in ground June 30, 1973*	Pipe Laid 1973-74*	Removed or Abandoned 1973-74*	Total Pipe in ground June 30, 1974*
		WROUGHT IRON AND STEEL PIPE		
0-3/4"	9,047	0	0	9,047
1	30,391	0	445	29,946
1¼	3,398	0	0	3,398
1½	122,550	0	372	122,178
2	110,755	436	1,578	109,613
3	1,618	0	1,179	439
4	3,886	0	0	3,886
6	1,908	0	110	1,798
8	1,743	1,101	1,393	1,451
12	8,301	0	0	8,301
13	456	0	0	456
16	20,875	602	776	20,701
18	3,560	145	0	3,705
20	82,185	7,071	1,760	87,496
22	23,851	0	1,530	22,321
23½	2,037	0	850	1,187
24	77,780	154	0	77,934
30	49,356	0	1,644	47,712
33	2,409	0	0	2,409
36	56,599	0	0	56,599
37½	8,896	0	0	8,896
44	22,501	0	235	22,266
48	12,818	0	0	12,818
60	26,216	0	0	26,216
TOTAL	683,136	9,509	11,872	680,773
		DUCTILE IRON AND CAST IRON PIPE		
2"	22,387	0	196	22,191
3	45,583	0	632	44,951
4	494,241	1,127	4,341	491,027
6	2,091,072	9,200	3,492	2,096,780
8	1,753,162	10,691	8,267	1,755,586
10	3,607	0	320	3,287
12	597,398	6,714	5,295	598,817
16	369,482	10,354	1,826	378,010
20	22,592	17	0	22,609

TABLE NO. 5
(con'd.)

Size	Total Pipe in Ground June 30, 1973*	Pipe Laid 1973-74*	Removed or Abandoned 1973-74*	Total Pipe in Ground June 30, 1974
DUCTILE IRON AND CAST IRON PIPE (cont'd.)				
22"	13,719	0	1,521	12,198
24	60,216	0	123	60,093
30	4,397	0	0	4,397
TOTAL	5,477,856	38,103	26,013	5,489,946
TRANSITE PIPE				
6"	16,982	0	0	16,982
8	24,552	0	0	24,552
TOTAL	41,534	0	0	41,534
PLASTIC PIPE				
1"	134	0	0	134
2	98	0	0	98
TOTAL	232	0	0	232
TOTAL ALL PIPES	6,202,758	47,612	37,885	6,212,485
TOTAL MILES	1,175	9	7	1,177

* All numbers are in feet unless otherwise noted.

STREET MAIN TAPS AND SERVICE CONNECTION RECORDS
SAN FRANCISCO DISTRICT JUNE 30, 1974

TAPS ON STREET MAINS

	Wharf	3/4"	1"	1-1/2"	2"	3"	4"	6"	8"	10"	12"	16"	Total
June 30,1973	376	119913	62011	5992	4576	1510	1134	932	573	7	27	2	197053
Add 1973-74	0	- 2868	3560	61	105	59	39	26	13	0	0	0	995
June 30,1974	376	117045	65571	6053	4681	1569	1173	958	586	7	27	2	198048

SERVICE CONNECTIONS

Services connected to street mains, as above	198048
Distributors being one or more additional meter connections to service pipe	1435
Total connections of record	199483
Disconnected services	39947

Net metered live services consisting of 159,553 active meters, less 2,796
Extra meters in batteries, plus 2,779 services temporarily shut off

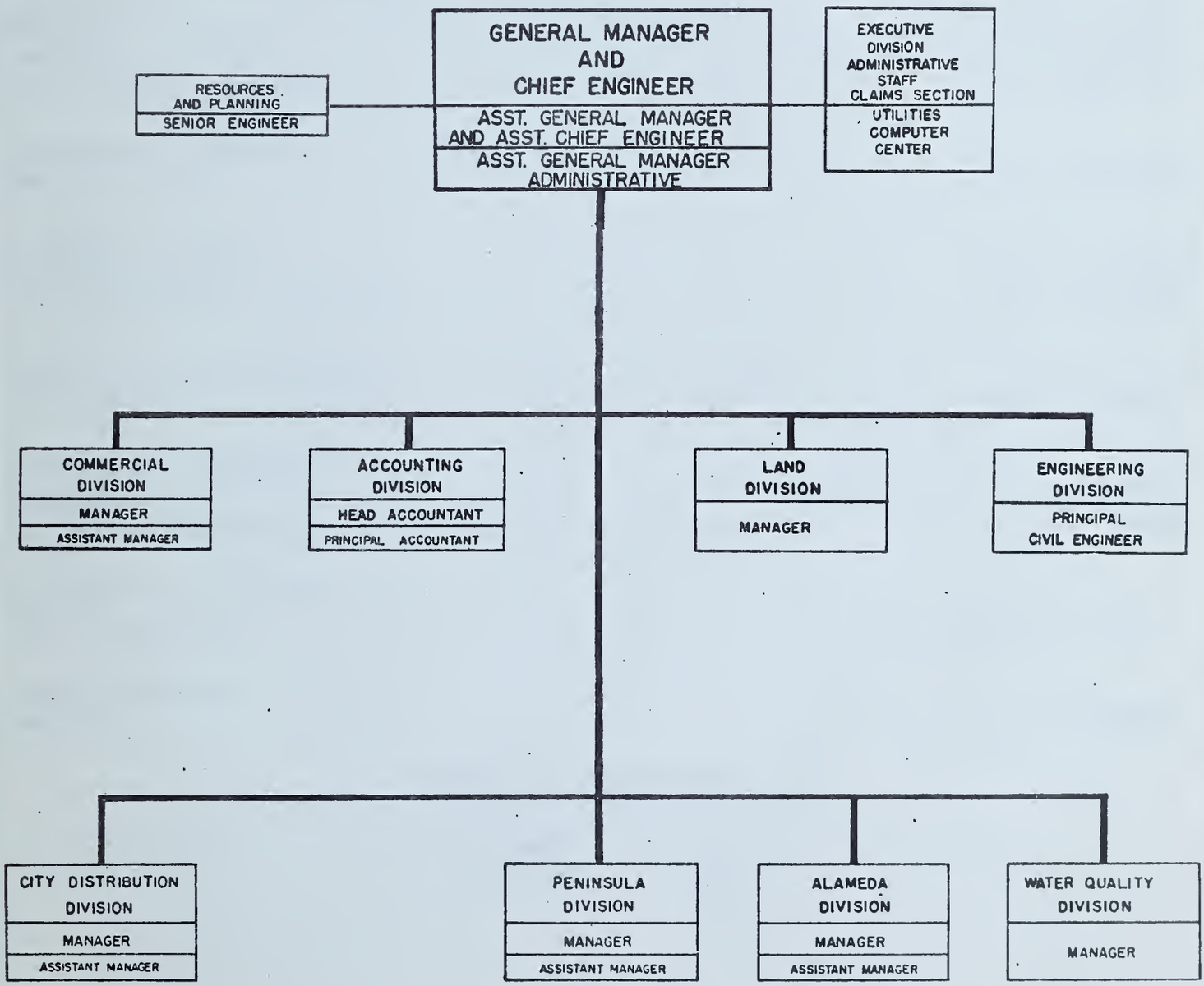
PREVIOUS RECORDS	1970-71	1971-72	1972-73	1973-74
Active	159363	159454	159288	159553
Shut-off	2981	2651	2919	2779
Total	162344	162105	162207	162332
Less extra battery meters	2632	2589	2692	2796
Net	159712	159516	159515	159536

SERVICE INSTALLATIONS

DISTRICT	Fiscal Year	Distributors	Totals
Richmond	62	0	62
Sunset	58	0	58
N. Market & Western Addition	285	0	285
S. Market & Twin Peaks	230	0	230
Waterfront	0	0	0

PREVIOUS YEARS	TAPS	Distributors	Totals
1970-71	566	0	566
1971-72	806	0	806
1972-73	694	0	694

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT
ORGANIZATION CHART



PERSONNEL

General Manager and Chief Engineer	Arthur H. Frye, Jr.
Asst. Gen'l Mgr. & Asst. Chief Engineer	H. C. Medbery
Assistant General Manager, Administrative	C. J. Roche

ENGINEERING DIVISION

Principal Engineer	J. L. Bardoff
Senior Civil Engineer, Design	P. T. Matsumura
Senior Civil Engineer, Construction	D. P. Cooper

RESOURCES AND PLANNING

Senior Civil Engineer	T. Q. Chan

CITY DISTRIBUTION DIVISION

Manager	K. R. Boyd
Assistant Manager	J. E. Kenck
Shop Superintendent	F. L. Baggetta

PENINSULA DIVISION

Acting Manager	R. L. Borame

ALAMEDA DIVISION

Acting Manager	G. J. Caccia
Acting Assistant Manager	T. W. Carter

WATER QUALITY DIVISION

Manager	H. W. Tracy

COMMERCIAL DIVISION

Manager	T. P. Kearney
Assistant Manager	F. Frery

ACCOUNTING DIVISION

Head Accountant	H. Guetersloh, Jr.

LAND DIVISION

Manager	R. Tanaka

NUMBER OF EMPLOYEES

Permanent	632
Temporary	52